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VETERINARIAN,

FOR 1830.

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VOL. III.

EDITED BY MESSRS. PERCIVALL AND YOUATT.

Ars Veterinaria post medicinam secunda est.—*Vegetius.*

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THE

VETERINARIAN.

VOL. III. JANUARY, 1830. No. 25.

ANATOMY OF THE HORSE.

By W. PERCIVALL, *M.R.C.S., and V.S. to the* 1*st Life Guards.*

[Continued from vol. ii, page 441.]

7.—GLOSSAL REGION.

THE muscles of this region form, collectively, the substance of the tongue: their number and variety account for the well-known mobility of that organ.

HYO-GLOSSUS LONGUS.—*Kerato-glossus.*

Situation.—Along the base and side of the tongue.

Form.—Long, narrow: flattened upon its sides.

Attachment.—Posteriorly, to the corner of the os hyoides, a short distance from its junction with the appendix; anteriorly, infero-lateral parts of the tongue.

Relations.—Externally, with the mylo-hyoideus; internally, with the hyo-glossus brevis; inferiorly, with the gustatory nerves.

Structure.—Thin, weak, aponeurotic, at its posterior attachment: remainder, fleshy.

Action.—To draw the tongue within the mouth; and at the same time depress it.

HYO-GLOSSUS BREVIS.—*Hyo-glossus.*

Situation.—Similar to the preceding muscle.

Form.—Broad, flat, thin, quadrilateral, half-penniform.

Attachment.—Externally, to the side of the body of the os hyoides; internally, to the base of the tongue.

Relations.—Externally, with the mylo-hyoideus and hyo-glossus longus; internally, with the genio-hyo-glossus.

Direction.—Obliquely transverse.

Structure.—Entirely fleshy.

Action.—To assist the former muscle in the retraction of the tongue; and to depress, in particular, the base of it.

GENIO-HYO-GLOSSUS.—*Genio-glossus.*

Situation.—Inferior part of the tongue.

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Form.—Broad, thin, half-penniform.

Attachment.—Inferiorly, to the inner part of the jaw, near its symphysis: superiorly, to the under part of the tongue; and also to the appendix of the os hyoides.

Relations.—Externally, with the genio-hyoideus, hyo-glossus, sublingual gland, and branches of the gustatory nerve; internally, with its fellow; inferiorly, with the genio-hyoideus; superiorly, with the tongue.

Direction.—From below, upwards; and from before, backwards.

Structure.—Fleshy; with the exception of the anterior half of its inferior border, where it is hemmed by a slender tendon which connects it more firmly to the jaw. Its surfaces are in part covered with adipose substance.

Action.—To project the tongue within the mouth, and draw it down: if one muscle act alone, the organ will be drawn to one side.

LINGUALIS.

The internal substance of the tongue consists of masses of fleshy fibres, taking various directions, and having interwoven with them a considerable quantity of yellow adipose tissue: anatomists consider these as a distinct pair of muscles. They take their attachments at the root of the tongue, from the body and appendices of the os hyoides, where they are separable and distinct portions; and proceed downwards, between the hyo-glossi longi, and above the genio-hyo-glossi, to be buried and consumed in the substance of that organ. They receive the insertions of all the other glossal muscles.

Action.—To contract the tongue lengthwise, and to draw it within the mouth.

8.—PHARYNGEAL REGION.

HYO-PHARYNGEUS.—*Kerato-pharyngeus.*

Situation.—Infero-lateral and posterior part of the pharynx.

Form.—Flat, thin, quadrilateral.

Attachment.—Infero-posteriorly, to the superior border of the corner of the os hyoides; supero-anteriorly, to the side of the pharynx.

Relations.—Externally, with the pterygoideus internus; internally, with the larynx.

Action.—To dilate the bag to receive the food.

PALATO-PHARYNGEUS.—*Pterygo-pharyngeus.*

Situation.—Upon the side of the pharynx.

Form.—Broad and thin: irregular in figure.

Attachment.—Superiorly, to the pterygoid process of the

sphenoid, and to the palate bone: inferiorly, to the pharynx—its fibres intermixing and confounding themselves with those of the hyo-pharyngeus and stylo-pharyngeus.

Direction.—The reverse of the former muscle: viz. from above, downwards; and from before, backwards.

Action.—To assist in the dilatation of the pharynx.

STYLO-PHARYNGEUS.

Situation.—Postero-lateral part of the pharynx.

Attachment.—Posteriorly, to the styloid process of the temporal bone, and outer side of the cartilage of the Eustachian tube: anteriorly, to the side of the pharynx.

Structure.—Tendinous at its origin: remainder, fleshy.

Action.—To assist in dilatation, by drawing the side of the bag in a direction upwards and backwards.

CONSTRICTOR PHARYNGIS ANTERIOR.—*Hyo-pharyngeus.*

Situation.—Antero-superior part of the pharynx.

Attachment.—Inferiorly, antero-internal part of the corner of the os hyoides; superiorly, to a tendinous line uniting it with its fellow along the mesio-anterior part of the pharynx.

CONSTRICTOR PHARYNGIS MEDIUS.—*Thyro-pharyngeus.*

Situation.—Behind the former muscle.

Attachment.—Inferiorly, lateral parts of the thyroid cartilage: superiorly, to a tendinous line running along the superior part of the pharynx.

CONSTRICTOR PHARYNGIS POSTERIOR.—*Crico-pharyngeus.*

Situation.—Postero-superior part of the pharynx.

Attachment.—Inferiorly, its fibres are confounded with those of the muscular coat of the œsophagus: superiorly, to the lateral parts of the cricoid cartilage.

Relations of the three Constrictors.—Superiorly, with the guttural pouches; inferiorly, with the membranous parietes of the pharynx, with the os hyoides, and the thyroid and cricoid cartilages; laterally, with the anterior portions of the parotid gland.

Structure of them.—Fleshy.

Action of them.—To constrict or contract the cavity of the pharynx in the act of deglutition.

9.—LARYNGEAL REGION.

Comprehending eight pairs and one single muscle.

HYO-THYROIDEUS.

Situation.—Upon the side of the larynx.

Form.—Quadrilateral: flat and thin.

Attachment.—To the inferior border of the semicircular portion of the os hyoides; and to a broad eminence upon the postero-inferior part of the side of the thyroid cartilage.

Action.—To elevate the thyroid cartilage, and with it the larynx altogether; or, to depress the os hyoides.

CRICO-THYROIDEUS.

Situation.—Upon the postero-lateral part of the larynx.

Form.—Flat; triangular.

Attachment.—To the borders and side the cricoid cartilage; and to the posterior border of the thyroid, filling up the vacuity between the two cartilages.

Action.—To approximate the two cartilages.

CRICO-ARYTENOIDEUS POSTICUS.

Situation.—Upon the upper part of the larynx.

Attachment.—To the entire upper surface of the cricoid cartilage, and to the posterior angle of the arytenoid cartilage.

Structure.—Fleshy; and furnished with two small tendons, which are fixed to the arytenoid.

Action.—To draw the arytenoid cartilage backwards.

CRICO-ARYTENOIDEUS LATERALIS.

Situation.—Postero-lateral and superior parts of the larynx, between the thyroid and cricoid cartilages.

Attachment.—To the anterior border of the cricoid cartilage; and to the side of the posterior angle of the arytenoid.

Action.—To draw the arytenoid cartilages asunder, and thus dilate the glottis.

THYRO-ARYTENOIDEUS.

Situation.—Upon the side of the larynx, between the thyroid cartilage and the lining membrane.

Attachment.—To the inner surface of the thyroid, and the triangular ligament; and to the side of the arytenoid cartilage.

Action.—To enlarge the glottis by separating the arytenoid cartilages.

ARYTENOIDEUS.

Situation.—Upon the superior part of the larynx.

Attachment.—To the superior or excavated parts of the two arytenoid cartilages; running across from one to the other.

Action.—To contract the glottis, by approximating these cartilages.

HYO-EPIGLOTTIDEUS.

Situation.—Between the epiglottis and semicircular part of the os hyoides.

Figure.—Fusiform. A single muscle.

Attachment.—To the hollow part opposite to the neck of the os hyoides; and to the broadest part of the epiglottis: enveloped within a doubling of the laryngeal membrane, and clothed in adipose matter.

Structure.—Pale fleshy fibres, mingled with fatty matter at its hyoideal attachment, and fixed to the epiglottis by a very small tendon.

Action.—To retract the epiglottis still further from the aperture, and thus increase the dimensions of the latter.

10.—PALATINE REGION.

Including one pair, and a single muscle.

TENSOR PALATI.—*Stylo-staphyleus.*

Situation.—Upon the supero-lateral part of the pharynx.

Form.—Slender, elongated; tapering towards either extremity.

Attachment.—Posteriorly, to the styloid process of the temporal bone, by means of a tendon common to it and the stylo-pharyngeus: anteriorly, by means of a cartilaginous loop (acting as a pulley), through which its tendon passes, to the styloid process of the palate bone: and, making a sudden turn outward, around this process, it becomes ultimately fixed to the postero-lateral part of the soft palate.

Direction.—From behind, forwards.

Relations.—Inwardly, with the stylo-pharyngeus and palato-pharyngeus; outwardly, with the pterygoideus internus.

Structure.—Fleshy, in the middle; aponeurotic, externally: terminating, anteriorly, in a long, flat, slender tendon, which plays within a cartilaginous pulley.

Action.—To stretch or dilate the palate.

CIRCUMPLEXUS PALATI.—*Staphyleus.*

Situation.—Infolded within the velum palati.

Form.—Collected into fasciculi, posteriorly: broad, thin, and expanded, anteriorly.

Attachment.—Anteriorly, to the semi-oval border formed by the union of the palate bones; posteriorly, to the palate; within the substance of which its fibres are intermingled with those of the stylo-pharyngeus and tensor palati.

Structure.—Fleshy, posteriorly; aponeurotic, anteriorly. A single muscle.

[To be continued.]

Communications and Cases.

Ars veterinaria post medicinam secunda est.—*Vegetius.*

ON RABIES CANINA.

By W. Youatt.

[Continued from vol. ii, page 132.]

The concluding portion of my essay on Rabies Canina, comprising the *medical treatment* of this dreadful disease, has been too long delayed. The truth is, that I had nothing satisfactory to offer; but hoped that zealously continued experiment, or some fortunate accident, might enable me to communicate that which would have been most gratifying to myself, and a valuable addition to our stock of pathological knowledge. Not one instance, however, of successful treatment of rabies has occurred; and I am anxious to get rid of an unpleasant subject.

Other practitioners are said to have been more skilful, or more fortunate; and, indeed, I was told by one of them, that he had cured several cases of rabies. I know that that gentleman *does* read The Veterinarian; and I would call upon him respectfully, but firmly, to favour the medical world with the history of these cases. He will not discharge the duty which he owes the profession or the public if he declines the challenge.

In The Veterinarian for April last I related some experiments on the alisma plantago, the belladonna, and the scutellaria, as preventives. The first was given in various doses; sometimes without the slightest effect, but generally with an evident although temporary mitigation of the symptoms. The following is the most marked case:—

Feb. 13, 1819.—Mrs. Hodges's (5, Hertford Street) spaniel had for two days refused its food. It had become exceedingly irritable, and had worried a cat of which it was previously very fond. It lapped its own urine, and frequently uttered the characteristic howl. It was becoming weak about the loins, and began to stagger. As he was brought along the street to me, he suddenly sprung on a dog and bit him. His eyes were red, and somewhat protruded; and his look was wild. His lower jaw hung down *a little*, and his tongue was slightly protruded and leaden-coloured. He was restless, and shifted his posture every moment. His breathing was laborious, and slight spasms were observed about his cheek and mouth.

He was brought to me early in the morning, and at 9 A. M. ʒii of the alisma plantago, powdered, were given to him, suspended in mucilage. For an hour he continued restless and howling as before; but at 12 the howl had changed to a fainter sound, resembling a whine, and the dog was sitting on his haunches, quiet and depressed.

At 2 P. M. the dose was repeated. He struggled against it, and, from partial suffocation or exhaustion, fell on his side, stretched himself out, and appeared as if he were dying. He soon recovered; and half an hour afterwards I found him quietly seated as before; his breathing was less laborious,—the whining had ceased,—the dog was perfectly sensible,—the wildness of countenance was gone, and an expression of extreme exhaustion remained,—he wagged his tail when spoken to, and arose and came slowly towards me,—he refused to eat, but lapped, and seemed to swallow a little water; and I saw him void his urine, and turn from it without lapping it.

7 P. M.—He was sitting quietly; the jaw no longer dependent, but his head almost as low as his elbow. He recognized me, and faintly wagged his tail. ʒi of the alisma was given; he again struggled and fell, and seemed to be dying; but in ten minutes he resumed his sitting posture. I saw him in this situation at 10 o'clock, but at six on the following morning he was dead.

The Belladonna was then tried on other rabid dogs, with more decided effect, and especially when the powdered leaf was used in the form of ball, or suspended in mucilage. The symptoms remitted, and exhaustion and even paralysis succeeded; but the animal died.

To this followed the redoubted Scutellaria, affirmed by Dr. Spalding never to have failed—certainly never given without evident effect, and of a more pleasant character than that which was produced by the alisma or belladonna. The extreme irritability was lessened or ceased, without the depression of the one or the exhaustion of the other. These experiments have been followed up, but I confess not with *all* the diligence that ought to have been used. All these drugs have power; relief to a considerable extent may be afforded by them; and, possibly, a clue may be obtained, which may eventually lead to a most important desideratum.

Jan. 19, 1813.—A terrier belonging to Mr. Garrard, of Panton Street, died rabid, having previously bitten his young master, and a poodle belonging to Mr. G. He was immediately drenched with the Hertfordshire preventive (a decoction of box and rue in milk), and the dose was repeated on three successive mornings.

Feb. 4.—Is very quarrelsome; challenges every dog he meets, and his countenance expresses much wildness and ferocity. He

was sent to my infirmary, and was bled and freely purged with aloes and calomel.

10*th*.—He has regained his usual habits.

19*th*.—He was this morning brought to me again. He had on the preceding day quarrelled with some imaginary object, and had barked furiously at it for an hour. He was now dull, and scarcely noticed the departure of his master, to whom he was much attached. Respiration laborious; jaw slightly dependent, yet able to eat; eager for water, quiet, and offered his paw as usual. ℞. Pulv. antimonial, gr. iij; calomel, gr. xij.

20*th*.—Jaw more dependent, and unable to eat; eagerly lapped water, but able to swallow a very little; wild, anxious look; eyes frequently closing, and head drooping; spasmodic motion of the head; watching the nails on the partition, and snapping at them. A stick violently enraged him. He made frequent attempts to get at a mare which stood in the next stall. Gave half a grain of arsenic every two hours.

21*st*.—Spasms more frequent; thirst extreme; breathing laborious. Flew savagely at me, but immediately crouched at my feet. Unable to bark, but made a peculiar deep, harsh, hollow noise. Continue the arsenic.

22*d*.—At 5 A. M. he died. The glottis was inflamed, and the lining membrane of the trachea presented the most beautiful ramifications of the distended vessels. The pleura of the right lung highly inflamed. The stomach contained a considerable quantity of thick, greenish-brown fluid, and the cardiac portion of the villous coat was generally inflamed, without spots of extravasation. The duodenum and jejunum inflamed, but the inflammation lost in the lower part of the ileum.

About this time some experiments were made on the effect of bleeding. The following was the most interesting:—

March 11*th*, 1813.—Mr. Haslep's spaniel, accompanying his master to an auction room, was observed, seemingly in play, to snap at the feet of the persons near him. In the evening he bit his master, and his master's friend. He was easily brought to my hospital—seemed perfectly docile, and eager to be caressed; but once suddenly, and without provocation, snapped at the man who brought him. To a common observer he would have appeared to be in perfect health, except that his eyes occasionally closed and his head drooped, and he would earnestly watch some imaginary object. He weighed about 10lb. He was bled until he fainted; but not more than five or six ounces of blood were procured. He scarcely moved during the remainder of the evening, but slightly wagged his tail when spoken to.

12*th*.—Somewhat dull; his eyes closing and his head drooping,

but not so often; still occasionally watching some imaginary object, but turned from a stick presented to him, and at which he yesterday eagerly snapped; sensible to caresses; ate heartily. V. S. ℥iiij.

13*th*.—Much improved in the morning. Ate and drank heartily, and was perfectly gentle and tractable; but towards evening, the closing of the eyes and drooping of the head, and watching of that which had no existence, were more marked than ever; together with a spasmodic affection of the head,—a peculiar husky, guttural sound,—hiding of his meat, and lapping of his urine.—Should not the bleeding have been pursued?

14*th*.—I arose with the dawn, and found every symptom increased. I opened the carotid artery, and drew five ounces of blood. The dog fainted. He could not be induced to move during the whole of the day, and refused to eat or to drink; indeed, he took no notice of surrounding objects, except that after being repeatedly called he faintly wagged his tail. He barked two or three times almost in his natural tone towards evening, and died in the night.

Many years after the transfusion of blood was much spoken of, Mr. Mayo very kindly called on me and conducted an experiment on a rabid dog. It was a white terrier, brought from the country, and of which no previous history could be obtained, except that he had been "*queer*" for two or three days. The lower jaw was almost completely paralyzed; the tongue was hanging out; the dog was eager for water, but could not drink; there was slight strabismus, and on one eye was a green opacity.

In two hours after he was admitted, a grating, choaking sound accompanied his breathing, and he began to fight furiously with his paws at the corners of his mouth, as if he would get rid of something which insufferably annoyed him, and in the attempt to do this he frequently rolled over and over. He was continually shifting his posture, and was perfectly harmless. Seven ounces of blood were taken from the jugular, and an attempt made to inject an equal portion of warm water. The dog struggled violently, and full seven ounces more of blood were lost, and perhaps nearly as much warm water injected. During the process of injection the dog heaved convulsively, and was very sick.

A difficulty of breathing, painful to behold, ensued; and to relieve this, and as another interesting experiment, the anterior portion of the third ring of the trachea was removed.

On being liberated, the animal seemed very weak, but the difficulty of breathing was aggravated, and the choaking sound remained. He sat on his haunches, leaning against the wall, his fore paws continually slipping from under him. I watched him

for two hours. He was gradually sinking, and he was found in the morning nearly slipped down, and his head resting on the ground, so that he must have died without a struggle.

Another dog afflicted with rabies was brought on the following day. Mr. Mayo again kindly attended; and, having observed evident injection of the medulla oblongata in the last case, he recommended severe cauterization as close to the poll as possible. Three deep longitudinal furrows were burned with the common firing iron. The dog seemed to suffer much less than we could have supposed possible; and the disease pursued its course, neither aggravated nor mitigated by the experiment.

Of the effect of mercury in every form numerous trials were made, but in no case with decided benefit, notwithstanding Dr. James's unqualified assurance of its power to arrest the disease.

Opium, ammonia, cantharides, and various other drugs, were successively put to the test, and failed; and it is a lamentable conclusion, that, with the veterinary as well as the human practitioner, this disease remains the opprobrium of his art.

Perhaps these experiments have not always been pursued in a sufficiently definite and scientific order, and I may not have availed myself of many opportunities to multiply them; but it will be recollected, that I never had a right to expose others to a danger from which I shrunk myself, and that I might certainly be permitted to calculate how far my own safety and life might be compromised. For the last eighteen months we have seen comparatively little of this disease, but it will break out again, and annoy and devastate. I should, then, feel honoured if human or veterinary practitioners would kindly send to my dissecting room quadrupeds labouring under rabies, or destroyed by it, that we may experiment on, or examine them together. I would willingly take my full share, or, perhaps, the whole of the danger, because from habit I should best know how to guard against it; and if one or two of those who are so well able to guide the researches of the comparatively uninstructed veterinarian, and to whom we already owe so much, would favour me with permission to send to them when any case of rabies occurs in my own practice, I should feel exceedingly grateful, and both veterinary and human practice might probably be benefitted.

A CASE OF PNEUMONIA.

By Mr. James Kerr, *Southampton, late V. S. to the* 1*st Regiment of Bengal Cavalry.*

On Tuesday, the 28th of October, 1827, I was requested by Captain G., of this town, to see a valuable hunter which had been off his feed since the previous Sunday, but which the groom thought arose from lampas. I found the patient labouring under inflamed lungs, and, on inquiry, learned that he was hunted on the Saturday before, and that Captain G. was obliged, after the chase, to ride the horse through a running stream. This appeared to me to be the exciting cause of the disease. The subject was a bay horse, in high hunting condition.

Tuesday, Oct. 28th.—Pulse 68, very full and strong; breathing hurried and laborious; mouth very hot; countenance distressed; ears, skin, and extremities very cold; fore legs wide apart, and fixed.

V. S. ℔viiiss. He became faint, and broke out into a profuse perspiration. Buff about one inch. The extremities were rubbed and bandaged, and the following medicine given:—Aloes, ʒii; nitre, ʒiii; soap, ʒii.

Wednesday, Oct. 29th.—Pulse 76, very full and strong; mouth hotter, and feeling like dry green baize; breathing more laborious; skin and extremities colder; does not lie down; fore legs appear as though fixed to the ground.

V. S. ℔viii; buff about one inch. Turpentine liniment to the legs, and bandage. ℞. Nitre, ʒvi; aloes, ʒiii; water, ℔j: make into a mixture.

Thursday, Oct. 30th, 10 A. M.—Pulse 78; respiration violent; other symptoms about the same, with the exception of his beginning to cough.

V. S. ℔viiiss; he could not bear more. Buff two inches. ℞. Aloes, ℥i; soap, ℥i; make into eight balls, and give one morning and evening.

8 P. M.—Pulse 76, but not so strong; extremities, &c. a little warmer; bowels slightly relaxed; is continually gaping.

Friday, Oct. 31st, 7 A. M.—Pulse 78, but has increased in strength; ears, skin, and extremities colder; mouth hot, and perfectly free from secretion; respiration about the same; purple hue is now appearing on the membrane of the nose. On putting my face to the nostrils, I found the breath cold. He lay down, for a few minutes, in the early part of the night.

V. S. ℔vi; about four inches of buff. The blood, at this bleeding, took an unusual length of time to coagulate to its utmost,

which, after all, was but an imperfect coagulation. Rubbed into both sides (the hair being previously removed) some strong blistering ointment, and inserted a large seton in the chest; put on additional clothing; applied turpentine liniment to the legs, with haybands, and secured by flannel bandage.—[By the use of turpentine liniment, haybands, and flannel bandage over to secure them, I have succeeded in keeping the extremities warm, when other means have failed.]

7 P.M.—The pulse at 76, with considerable strength; other symptoms about the same, but the extremities are a little warmer.

Nov. 1*st*, 7 A.M.—Pulse 78, and strong, with the usual bad symptoms; distressed countenance; hurried respiration; fore legs fixtures; does not change his position; purple hue of the Schneiderian membrane, &c.

V.S. ℔vi; applied fresh blisters to the sides, the first not producing the least effect.

7 P.M.—Pulse 80, and strong; appears worse.

9 P.M.—Pulse still at 80, and bounding. I determined to persevere in the bleeding. V.S. ℔viii; and, for the first time, no buff; and the coagulation took place, remarkably, in much less time than the two or three last bleedings. Administered aloes ʒi, nitre ʒiii, and soap ʒii.

Nov. 2*d*.—Pulse 76, but not so strong; extremities warmer; there is now a considerable serous discharge from both nostrils, resembling the serum of blood; cough weaker.

Nov. 3*d*.—All the symptoms a little better; pulse 76.

Nov. 4*th*.—Pulse 60; doing well. ℞. Sulphate of copper, aloes, nitre, one ounce each; Venice turpentine enough to form a mass: divide into eight balls, and give one morning and evening, after half a feed of corn.

Nov. 5*th*.—Pulse 60; other symptoms better, but a profuse staling has come on. I saw him void his urine four times in half an hour, and in large quantities. A very considerable swelling is forming from between the fore legs, along the abdomen, to the groin; this I punctured in several places, ordered fomentations, and some pressure to be used, which gave exit to a serous discharge.

Nov. 6*th*.—Doing well; secretion from the kidnies the same. The horse now moves about in the box, but does not lie down. The tonic balls were continued from this time up to the 1st of December, and he rapidly recovered. The skin where the blisters were applied peeled off perfectly dry, but there was not at any time the least discharge from them. As a proof of his strength of constitution, he was hunted about the end of January; but he did not take his rest in the recumbent posture until one month after hunting. He went through the remainder of the

season well, and is now in fine health. He lost, altogether, twenty-two quarts of blood. Having mentioned the small quantity of buffy coat that appeared at each bleeding, I beg to mention that the same vessel and fleam was used throughout.

JAMES KERR, *V. S.*

ON BREEDING.

By Mr. KARKEEK.

[Continued from p. 491, vol. ii.]

FRANCE.

" Comparant ensuite la France avec les contrées voisines pour la richesse en troupeaux, il s'arrête devant la desproportion qu'elle présente sous ce point de vue avec la Grande-Bretagne." *M. le Baron Ch. Dupin.*

IN France there are horses of all descriptions, but few of them are handsome, or very " fast goers." The government has taken great trouble of late to improve their breed, by large purchases made in England, Hanover, Germany, Prussia, and Arabia, but their success has not been great. The best of their kind are brought from the Limousin. This was the favourite breed of the late Emperor Napoleon, when crossed with the Arabian horse. Normandy also furnishes some tolerably fine animals, who with their arched necks and Roman countenances are well adapted for carriages.

Comparing France with England, we are surprised at the disproportion which presents itself even in the number, as well as the quality of their breed. From an extract published in the " Journal de Medécine Veterinaire et comparée," by M. le Baron Ch. Dupin, on the amelioration and multiplication of their principal domestic animals, alluding to horses, he says: — " Que la France est pauvre, comparée aux etats voisins, le tableau suivant le prouve d'une manière positive."

Puissances.	Population.		Nombre de chevaux pour 1000 hommes.
	Humaine.	Equestre.	
Hanovre - - - - -	1,300,000	250,955	193
Suède - - - - - -	2,800,000	406,365	145
Canton de Vaud - -	160,000	22,498	140
Grand-Bretagne - -	15,000,000	1,500,000	100
Prusse, six provinces -	8,453,660	807,049	95
France - - - - -	31,600,000	2,500,000	79

To account for the great difference that exists between France and England, as regards their breed of horses, is impossible; unless we refer it to neglect, and ignorance in their method of breeding: for we know of no particular difference, either in the soil or climate of the two countries; nor does the climate of England approach, in a greater degree, that of the primitive habitation of this animal than that of France. "The Old Forrester," an anonymous correspondent in the "Sporting Magazine," says, "That if the French government lay out as many louis as it now does francs in the attempted improvements in horses, so long as the system at present adopted continues, and the great mass of the people remains the same, no danger of the English being out-done, as breeders of horses, is to be apprehended these next five hundred years."

Such is the present state of "horse-flesh" in "La belle France." That they require a new system in their method of breeding, is very evident; but what remedy to recommend, is beyond our ken.

"Aux grands maux, les grands remédes."

And in their attempted improvements in breeding, and ameliorating their principal domestic animals, they should not forget another of their idioms,—

"Nourriture passe nature."

SPAIN.

The Spanish horse is every thing, in figure, strength, speed, and constitution, that a horse ought not to be; he is, in fact, a miserable specimen of his species; and the disproportion observable in the different parts of which he is composed, produces most discordant and unnatural motions, wanting, what *Bourgelat* considers as necessary to constitute perfection: "cette regularité de proportions qui, constitue les belles formes et, de plus, est essential à la justesse des aplombs." The Spaniards have taken great pains in breeding mules, which they produce in great numbers; and in order to procure a considerable number of these useful animals they have sacrificed their handsomest mares, whereby they have almost totally annihilated the race of good horses in a country which, so late as the reign of Philip IV, could furnish eighty thousand for military service.

The *Flemish* and *Dutch* horses are all large and bulky animals, possessing large heads and broad flat feet, and are only calculated for purposes of heavy draught. We are chiefly indebted to them for our present breed of draught horses.

UNITED STATES OF NORTH AMERICA.

In a country extending though fifteen degrees of latitude, where there are so many variations of soil, we must expect considerable diversities of agricultural productions, and, consequently, different kinds of horses. Much attention of late has been bestowed, and great exertions made, to improve the breed of domestic animals, particularly horses; and success has crowned their endeavours, in bringing to perfection such a number of those useful animals, that in Yew York alone, according to "Warden's Statistical Survey in the year 1815," their number was estimated at 300,000; yet, at the time of its first discovery by Europeans, those animals were not seen in any part of the American continent.

The prices in 1815, as stated by Warden, were, "fine race horse, from two to three thousand dollars; saddle horses, from one hundred and fifty to two hundred dollars; a pair of carriage horses, from four to six hundred dollars."

The *South Americans* are indebted to the Spaniards for their breed of horses; for, before that extensive track of country was discovered by Columbus, they were unacquainted with the animal. Since that period the breed has multiplied so prodigiously in that thinly inhabited county, and has so far relapsed into a state of nature, as to exhibit the general characters of the wild animal.

The *Danish* and *Italian* horses are not very handsome, but are well calculated for carriages. Most of them have large thick necks; but this is in some measure compensated by their stateliness in form, and they are not altogether ungraceful in their movements.

The Studs of the *German* nobility have been considerably improved since the termination of the late war. They have been at great expence in procuring the best thorough-bred mares and stallions; and already the studs of several noblemen, particularly those residing near Mecklenbourg, bid fair to rival the best in England.

The *Russian* horses are strong, hardy, and muscular animals; they are rather coarse in their heads, but are capable of enduring great fatigue and privations, though, in point of speed or durability, they cannot approach in competition with the English horse. This was clearly shown in 1815, when a couple of race horses, that were thought nothing of in this country, beat the best horses of the Cossack breed.

The *Turkish* horses are strong, hardy, and useful animals; but, owing to the indolence of the Turks, they are not in such a high

state of perfection as we might expect, in such a delightful and salubrious country. There is much, however, to be attributed to the discouragement arising from the tyranny of their government*, "the owner often wilfully laming a valuable horse, lest their beys should like it, and force it from them." Their cavalry are considered superior to the Russian, and at this time are equal almost to any in Europe.

The Turkish breed have contributed considerably to improve the English race-horse. The *D'Arcy yellow and white Turks*, the *Stradling* or *Lister Turk*, *Williams* or *Turnur's Turk*, and the *Byerley Turk*, with many others of equal notoriety, have not a little added to our breed, as their "*get*" bespeaks.

Barbary possesses two breeds of horses: one kind is chiefly found in mountainous districts; the other is principally bred in the kingdom of Morocco. The former are animals of little worth, whilst the latter are highly esteemed, and considered of great value. Their paces are good, and accompanied with dignity; they are swift, active, and light, and are celebrated for their beauty, particularly about the head, which is most elegantly formed.

The Barbs have chiefly contributed to the excellence of the English race-horse. The most remarkable ones are *Lord Fairfax*'s *Morocco Barb*, and the *Godolphin Arabian*, as he was usually called, though he was evidently stolen from the coast of Barbary, and smuggled into France. This famous stallion contributed more to the improvement of our native breed, than any other horse before or since his day.

The *Arabian* horses are very beautiful animals: they are strong, vigorous, and muscular, and are capable of enduring great fatigue. The Arabians have produced them in the highest perfection from the wild unmixed breed that were formerly found in Arabia Deserta. They are considered as the only breed that have retained their primæval form, which is accounted for by the extreme care that is taken in breeding them, as the Arabs allow none but stallions that are conspicuous for their size, colour, and proportion to have access to their mares, which is done in the presence of a notary, or public officer, belonging to the district, who records the name of the horse and mare, and the whole pedigree of each.

The principal riches and amusements of the Arabs are dependent on their horses: they, consequently, take all imaginable care of them. An Arab is as fond of his horse as of his children. "Men, women, children, mares, and foals all lie in one common tent, and they lodge promiscuously, without fear of injury†."

* Univ. Modern Hist., quoted from Maillet and Pocock.
† Pennant's Zoology.

"This constant intercourse produces a familiarity, and creates a tractability in the horses, that could arise only from a regular good usage, little acts of kindness, and a soothing language, which they are accustomed to from their masters. They are quite unacquainted with the spur: the least touch with the stirrup sets these 'airy coursers' in motion; they set off with a fleetness that surpasses that of the ostrich, yet they are so well trained, as to stop in their most rapid speed, by the slightest check of the rider. There are some instances related of their being mounted without either bridle or saddle, when they show such compliance to their rider's will, as to be directed in their course by the mere motion of a switch*."

"Paret in obsequium lentæ moderamine virgæ,
Verbera sunt præcepta fugæ, sunt verbera frænа†."

The *Circassians* breed some beautiful and useful animals. They are very fleet, and capable of great exertion.

The *Persians* are principally indebted to the Arabians for their horses, which are larger and handsomer than their progenitors, owing, probably, to the superior richness of the Persian soil.

The horses bred in the East Indies and China are very small, and some of them so diminutive as scarcely to exceed the size of a large dog. Those which are used by persons of distinction are chiefly brought from Persia, Tartary, and Arabia.

Arabia has been considered, by some authors, as the primæval seat of the horse, from whence Africa and other places were supplied; whilst others believe the reverse, and give Africa the credit of having furnished Arabia with its beautiful breed, through the medium of the Egyptians.

Nothing is more probable, than that the horse was first subjugated to the purposes of man in Egypt. She was the first civilized country in the world; her wisdom was the admiration of every country; her institutions and laws were the model of the classic Greeks: philosophers resorted to her,

"As the mother of science, and the house of gods;"

legislators, as to the abode of knowledge and the laws; and poets, as the land of literature and poesy. Every thing we read respecting this singular nation gives us a very high idea of their sagacity, and leaves us not a doubt respecting their claim to having first tamed the dessert-born horse, and taught to "bear the reins;" but, from the nature of the country, Egypt never could have been a place capable of breeding horses in very high perfection, though she possessed them in great numbers. Diodorus Siculus informs

* Pennant's Zoology, quoted from Taverner's Travels, vol. i, 63.
† Nemesion Cyneg. 267.

us, that, "1650 years before the Christian era, Sesostris, king of Egypt, possessed 24,000 cavalry and 27,000 armed chariots;" yet, to what country they were indebted for them history does not inform us: all their records are lost; and, of the vast library of Thebes, not a volume remains to instruct us on the subject.

Arabia certainly possessed horses in the highest perfection in the days of the author of the book of Job, who was an inhabitant of the very spot, and who, at that early time, when the animal creation possessed much of its primitive excellence, composed that sublime description of the horse*. Job was reckoned by Dr. Owen as contemporary with Abraham; whilst Philo, Aristeas, and Polyhiston, and a great many of the Fathers, agree in supposing him to have been one of the ancient kings of Edom, and third in descent from Esau; therefore Arabia must have had horses at a very early period of the world.

The original language of the book of Job is Hebrew blended with Arabic, which is acknowledged to be the pure old grammatical Arabic: "this was the dialect of the Hebrews, and, by the people of the east, was accounted the richest, most energetic, and copious language in the world, being taught in their schools, as Greek and Latin are amongst Europeans†."

From these facts, it is apparent that Arabia possessed horses of a very superior kind, at a very early period; and that from them, and by the mediation of the Barbs, either directly or indirectly, have originated the finest and best horses in the four quarters of the globe.

[To be continued.]

*** We beg leave to refer Mr. Karkeek and our readers to our notice of the "Farmer's Series," in the present number. It contains, we think, a more probable account of the origin of the horse.

INFLAMMATION AND RUPTURE OF THE LIVER.

By Mr. PALMER, *Crown Street, Soho.*

Nov. 30.—An aged brown coach-horse was brought to my forge about twelve in the day: the owner accompanied him, and wished him to lose a little blood, as he was informed by his coachman that he had not eaten his corn the night before, nor

* Job, chap. xxxix, ver. 19th to 25th.
† Adams's Universal History.

this morning; he had, however, done his work as usual. I examined him, and found, with the exception of a slight increase in breathing, nothing about him to indicate any thing wrong; but knowing him previously, and seeing that he had made flesh rather fast latterly, and observing, as before mentioned, the breathing somewhat hurried, I readily assented to bleed him, after which, by the desire of the owner, he took a common diuretic: he afterwards stood some minutes in the forge, when the breathing appeared much increased; and he then, for the first time, began to show some little uneasiness, in rather a peculiar manner, by shifting first one hind leg, and then the other, which he would do ten or twelve times in a minute: he then did the same with the fore ones. Before he left the forge he began to evince more pain, by pawing a little with one fore-foot. I now requested that he might be taken gently home, and said I would see him early in the afternoon. Being a good deal engaged in the afternoon, I was not able to see him so soon as appointed; but about five o'clock the owner called on me, and said he thought him better, although soon after he got home in the morning he had been much worse, and showed a great deal of uneasiness, by frequently lying down, and stretching his head out under the manger. The coachman, supposing it might be spasm of the bowels, raked him, and soon afterwards he staled; and then, up to the time the owner called on me, he was thought to be doing well. I saw him for the second time about six o'clock in the evening, and found him lying down, and, whilst lying, apparently in no pain; but on entering the stable he immediately got up, and walked rather quickly towards the manger, as though he was going to feed; but he had no sooner got there, than he backed very quickly to the hind part of the stable, where he in part supported himself against the wall for about a minute. I now proceeded to examine him very closely, and found his pulse about seventy; ears and extremities rather cold; Schneiderian membrane and conjunctiva very pale. On putting my finger into his mouth, it was coated with a white slimy mucus, and I know nothing better to compare it to than a mixture of prepared chalk made very thick. Upon further inspection, I found the tongue coated with the same; respiration a very little hurried; but there was the shifting of the feet, one after the other, as noticed in the early part of the day. I was now quite satisfied that a great deal more was the matter than was anticipated by his owner, or than I had suspected in the morning, but did not feel assured as to the real disease, although strongly suspecting diseased liver. I did not feel inclined to do much; seeing, however, that his bowels were somewhat constipated, I attempted to give him a dose of oil, but I found this quite impracticable, from the very

great resistance which he made; and the owner informed me that his people could never give him either draught or ball. I now attempted, and succeeded, in giving a mild aperient; threw up several large glysters; and ordered him into a loose airy box, and to be clothed warm. On leaving the stable, I requested my assistant to meet me there in two hours, determined, should we find him no better, he should lose more blood. I had not been gone above three-quarters of an hour before the owner came, in great haste, and said he was down, and he thought dying. He then asked me what I thought was his disease, when I told him I had strong reason to suspect he had an inflammation of the liver. Upon arriving at the stable, I found him standing: pulse between 90 and 100; breathing at times much more accelerated; conjunctiva and Schneiderian membrane very pale, and the same appearance of the mouth as before described. I now gave a decided opinion as to its being a disease of the liver; and suspecting that internal hæmorrhage had taken place, and knowing he must die, I proposed bleeding him again, which was accordingly acceded to; but we had not got above a quart, when he staggered and fell, and died in twenty minutes.

Post-mortem Appearances.

Upon opening the abdomen, I was quite prepared to meet a large hæmorrhage; but notwithstanding our precaution in exposing the intestines, we lost a considerable quantity of blood, in which they were completely swimming. After they were taken out, I measured six gallons from the abdominal cavity, before we were able to get a sight of the liver, which we found to be torn five or six inches across its greater lobe, the whole substance of which put on the appearance of coagulated blood; its structure was so broken down, it could only be taken out by pieces. All the other viscera of the abdomen and thorax were quite healthy, and the former very thickly lined with adipose matter. The only way in which I am able to account for this disease, is, that in the late snow and frost, he, not being rough-shod, tumbled about very much, and fell down several times; after this he took to lying down while out in the street at night, which he had never done before. As, however, he fed well, and did his work as usual, this was not taken much notice of. On further enquiry, I found that he had been, as might be expected, very costive; and it had been found necessary to give him several bran mashes for more than a week past.

PS. I should have mentioned, that, in bleeding in the morning, the blood did not come away in one free stream, but by repeated jerks or jets.

INFLAMMATION OF THE UDDER IN A COW TREATED WITH IODINE; ALSO, A CASE OF NEUROTOMY.

By Mr. H. Christian, *Canterbury.*

To the Editors of the Veterinarian.

December 2, 1829.

Gentlemen, — Should you consider the two following cases worthy of your insertion in your very valuable periodical, you are welcome to make what use of them you may deem fit: and I also take this opportunity of wishing *hearty* success to your work; for it certainly is, *without exception*, one of the most valuable of sources of information to the veterinarian that has ever issued from the press. I am, Gentlemen, your's, &c.,

Henry Christian, *V. S.*

In the middle of the last month I was called to see a cow, the property of a farmer in the neighbourhood of Canterbury. The symptoms were as follow:—quick pulse, and indurated udder and speens. It had been in this state for four months, and several remedies had been tried before I saw her. I ordered fomentations, bleeding, and purging; but they were of no service. From two of the speens blood occasionally flowed, when attempting to milk her. At the end of a week I altered my treatment, and applied camphorated mercurial ointment. This, also, was of no benefit, and the udder and speens still continued in the same state as when I first saw her. Finding the foregoing remedies useless, I was determined to try the iodine; the proportions were ʒij of iodine to adeps ℥iij; at the end of a week the udder was smaller and softer than it had been for some time. I persevered in the treatment, rubbing in a drachm of the ointment twice a day, and at the end of a fortnight the udder and speens were *as well as if they had never been affected.*

The next case is to illustrate the utility of an operation, which has been so unfavourably spoken of by those who are not aware of its utility:—I refer to Neurotomy. This was a gelding, the property of a gentleman well known in this part of the country as a huntsman. About two years since the horse fell suddenly lame of his near fore foot, for which he was bled, poulticed, physicked, and turned out with one of Mr. Coleman's patent frog-shoes. At the end of three months that foot measured three-fourths of an inch broader than before, and he was to every ap-

pearance sound. But on his first going out he again became lame, and the gentleman determined to have him unnerved. It was performed early in the spring, and about one inch of the nerve excised. He got up, and went free from lameness. He was hunted all that season and some portion of this, until by an accident he fractured one of the lumbar vertebræ, and was obliged to be destroyed on the spot. After death I had the pleasure of examining his foot, which put on the following appearances:—The anterior ligament, uniting the navicular with the coffin bone, was partly ossified, as was also that one which joined it to the flexor tendon. The navicular bone itself was carious in two parts, and the peridesmium and pericondrium were united, and the joint almost destitute of synovia. Such were the appearances on dissection: before the operation, the horse was so lame as to be *entirely* useless; but after that operation, he was as good a horse as any in the field. Such is the state of the case, and very plainly sets forth the utility of an operation which will hand down to posterity the name of the gentleman (Mr. Sewell) who revived, if not discovered, this very valuable mode of alleviating suffering.

SYMPTOMS OF A CASE OF ACUTE PLEURISY, SPEEDILY FOLLOWED BY DEATH.

By W. Percivall, *Esq.*

This horse (who was in his fourth year) was found, at seven o'clock in the morning, in the following condition:—He was sweating profusely; heaving hard and quick at the flanks; puffing at an equal ratio at the nostrils; the pulse could be but very indistinctly felt either at the jaw or heart, and it did not seem to keep pace with the respiration; the mouth was hot and clammy; the legs intensely cold, although other parts were wet with sweat; the head hung down, and the countenance betraying serious malady; the eyes reddened, the nose likewise, and moist with yellowish sanious matter, accompanied with fœtid breath, which offensive odour also proceeded from the mouth. When pressed upon the side he flinched and turned his head round, evincing much soreness in the part.

As soon as he could be got dry and clothed up (for his skin had begun to grow cold from being wet with sweat) he was bled. But two quarts of dark-coloured thick blood had flowed, however (and that in a slow stream, and obtained with much difficulty), before he began to stagger, rendering it necessary to stop

the bleeding. Medicine was now given, and the animal warmly clothed. Although he was loose in a capacious airy place, it became necessary to take off the quarter cloth, and have him covered with the rug only, in consequence of his breaking out again into a profuse sweat. He had twice or thrice passed three or four small lumps of dung, thickly coated with lymphy and slimy matter; on which account an emollient clyster was administered.

Without going further into the treatment (which in nowise differed from that ordinarily adopted), the symptoms which at this period attracted particular notice were, that of his resting his nose upon the rail inclosing his apartment, thrusting his lips violently against it, and sinking his eyes with an expression of much internal pain. Occasionally he moved himself round, and was seen once or twice to lie down, but he soon arose again: all which evidently proceeded from continued acute and harassing pain.

Towards the conclusion of the case a bloody ichorous discharge accumulated about the nostrils, and the foregoing symptoms increased, especially the heaving and puffing, the thrusting of his muzzle against the railing, and the occasional fits of moving about and lying down. At last he lay down and extended himself at length, and in that posture lay blowing and groaning from pain. He became delirious; his eyes were dilate and ghastly; he made several vain efforts to rise; at length he effected it, and once more stood upon his legs. But now his body wavered from side to side; in attempting to walk he reeled about; and, as momentarily was expected by those about him, soon came down with a tremendous fall, stretched his limbs out, and expired.

Examination four Hours after Death.

Water (perhaps six or eight quarts, for it was not measured) within both thoracic cavities.

Pleura intensely inflamed; *costal portion* everywhere most minutely and thickly injected with red blood; *pulmonary portion* likewise injected, but its surface exhibited a green hue.

Lungs, tuberculated towards the edges and upon their surfaces; but their interior substance was, generally, sound: only, at least, rather redder than naturally.

THE SYMPTOMS AND CURE OF NAVICULAR DISEASE IN THE FEET OF HORSES.

By Mr. JAMES TURNER, *Veterinary Surgeon, Regent Street, London.*

[Read at the Veterinary Medical Society, December 4, 1829.]

GENTLEMEN,—In the month of December last I had the honour of reading to this Society a paper explanatory of my views regarding the nature of the navicular disease, or chronic lameness in the fore feet of horses, together with the causes of that destructive malady.

The method of treatment and cure is the object of the present paper for this evening's discussion.

This very prevalent complaint, commonly called groggy lameness, has been shown to exist generally in the navicular joint; and I think I may safely assert, that the term navicular lameness has now become as current among veterinary practitioners as coffin lameness used to be among the ancients.

Although dissection generally affords satisfactory evidence of the seat of disease, yet it does not as uniformly serve us in tracing its causes, the investigation of which is generally involved in more obscurity, and consequently is too often speculative. But with respect to the probable causes of the disease in question, I think there is as much light elicited by the dissection of the morbid specimen as we could desire. Commencing with the ground surface of the horny frog, and unfolding, layer by layer, all parts, until we arrive at the carious surface of the navicular bone, there will be presented, at one view, that which not only fully explains all the phenomena of the disease, but suggests to us the method of cure, and even points to a rational mode of shoeing.

I beg to observe, that in my former paper I took upon myself a sort of classification of contraction, or rather its division into two kinds; the one under the designation of *simple* or *general* contraction, such as the narrow-heeled foot with lengthened toe, which is so very prevalent, and obvious to the common observer; and which is frequently seen unaccompanied with lameness, and even sometimes remains harmless through a long life of hard work. The other I have called the *occult* or *partial* contraction, which is one of the most insidious diseases to which the horse is subject; and so specious is the exterior of such a foot, that none but a most experienced eye would discover the existence of any disease, unless attracted to it by an accompanying lameness. Circularity,

solidity, compactness of fibre, and an unusual appearance of strength, being its characteristics; the heels are high, the sole strong, and the crust thick, particularly at the toe: but it sometimes loses its due proportion of obliquity, and becomes rather more upright than natural. There is, however, a more certain indication which usually presents itself; viz. a falling in of the inside quarter, or slight indentation about the middle of the crust towards the heel: this sometimes assumes the appearance of a stricture, in a slight degree, all round the crust, and occasionally two or three of these strictures or rings are apparent.

Thus much may be observed without the removal of the shoe; but the protrusion of the frog within the foot (adverted to in my former paper), together with the morbid concavity of sole, may not be discoverable till the drawing-knife has been extensively employed, not only on the sole, but in excavating those channels or commissures on each side of the frog, between it and the bars. An inordinate growth of sole and other parts of the foot, by presenting prominent surfaces, too often conceal from our view the encroachments and consequent diminution of the horny cavity. This may be compared to the deceptive wine-bottle commonly used: while standing on its basis, it appears plausible enough as to its capacity; but when inverted, a most lamentable protrusion is discoverable in its breech, which proves to be a preparation of flint instead of the grape. The outer surface of the sole of such a foot sometimes resists the drawing-knife like a stone, from its excessive hardness.

I contend, that the navicular joint disease is generally, though not always, preceded by one of these contractions of the horny box. It may be the general contraction first described, or this occult partial contraction.

There will be found an ascent of the coffin bone within the hoof, occasioned by the contraction: it is the *elevation* of this larger foot bone which necessarily puts its small companion, the *navicular bone*, in jeopardy. I say, necessarily; because they are so closely knit together by ligaments, that the smaller bone bears the resemblance of a process to the larger.

The *occult* contraction is chiefly to be dreaded for these obvious reasons: it occasions a more partial pressure, is frequently more rapid in its progress, and, by operating principally from below upwards, has a greater tendency to elevate the coffin and navicular bones.

On the contrary, the *simple* or *general* contraction is a more lateral compression, and so slow in its encroachment, that it affords, perhaps, one of the most striking instances in the animal creation of Nature's resources, when contending against hostile

agencies, if she is not too abruptly violated. This is completely verified in the contracted foot of an old hard-worked horse, free from lameness. Nature appears to have had time to adapt herself to the change, without inflammation being induced, in that degree, however, sufficient to occasion pain.

The first effect of contraction, whether of the simple or occult kind, appears to be absorption ; but, notwithstanding its continuance, we find that the laminæ remain entire, also the sensible sole, together with the inferior and lateral cartilages, except the latter should be ossified ; but there is one important organ which falls an early sacrifice ; viz. *the pulpy substance, commonly called the fatty frog or elastic cushion, which becomes in part absorbed.* The cartilaginous or reticular portion, being a harder body, remains ; therefore, it still retains its form in a condensed state, and is yet an elastic substance, although degenerated into a hard cushion instead of a soft one. Thus it is that that portion of the main back sinew of the leg, the flexor perforans tendon, where it forms the navicular joint, is no longer embedded in such an elastic medium as would defy all human ingenuity to imitate, which was the original condition of the fatty frog.

The dilapidated state of this spring affects the elasticity of the posterior parts of the foot in other ways besides the resistance it opposes to the navicular bone in its descent; for I believe the fatty frog, as it is called, to be an organ which performs *several* important functions, as regards elasticity alone, and that there is an additional reason for the larger half of this elastic mass being placed posterior to the navicular joint, besides that of expanding the lateral cartilages from its continuity. For, when we consider the extensive pulley-like motion between the tendon and the navicular bone, and that all the upper part of this pulley-like surface, from the oblique position in which the bone is placed, could not be benefitted by a spring immediately under it ; and taking also into the account, that the navicular bone, in its descent, must incline backward, in unison with the motion of the coffin bone, it follows, that a soft pillow was as much required at the back as at its base : and, indeed, a more extensive one, as the back part of this surface presents a larger space than the inferior.

Notwithstanding all this difference between the soft bed and the hard one, still it cannot be denied that there are many thousand horses in this country so circumstanced, which go perfectly free from lameness ; though I much doubt if any one of them retains the full degree of elasticity in action which he originally possessed.

But the absence of lameness is by no means a proof of the harmlessness of this antecedent disease ; for the navicular joint of such a foot, although sound as adamant, and its surfaces polished

like ivory, and duly lubricated with synovia, is in jeopardy, and only requires two or three more concurring circumstances to effect a lesion within its delicate organization; and this frequently happens instantaneously.

I conceive that the rigidity of the posterior parts of the foot (the navicular joint not having suffered any injury) conveys to the animal the sensation, not of pain, but merely slight restraint or compression, which is attended with a corresponding want of confidence, that induces him to give an undue bias to the weight towards the toe or front of his foot; the laminæ of the fore part of the coffin bone sustaining the burden, while the navicular bone and heels of the coffin economically receive only so much of the superincumbent weight as the degenerated harsh spring may be capable of disposing of; and therefore a *condition of the foot is produced which approaches to disease.* Thus, I think, may be solved the greatest of all mysteries regarding excellence in the movement of this incomparably useful animal, viz. that a valuable horse, highly gifted with action, and in the prime of life and spirits, suddenly ceases to convey to the rider that indescribable pleasant sensation which had always before distinguished him from common horses; *his action becomes limited in his slow paces* without any apparent cause; and yet his mode of going might defy the competent veterinarian to pronounce him lame, although brought cool from the stable on the pavement; and the owner is the more perplexed, in proportion as he himself attempts to ascertain the cause. If the horse happens to be a fast trotter, he tries him for a spirt: "Oh! says he, he never performed his mile in less time in his life."

If, instead of a trotting horse, it be an accomplished hunter, he returns from the chase, and exclaims in ecstacy, "We have gone the best pace without a check, and he has carried me brilliantly!" when, perhaps, on the preceding day, he had ridden him five or six miles, at a walk or *slow* trot, and returned thoroughly disgusted with him; for, instead of performing with his wonted grace and elegance in a firm, flat step, not only regardless of the weight of his rider above, but equally as independent of the stones below, he shuffled, broke frequently from the walk into a jog, dropped occasionally, now and then dug his toe or pegged it against a stone, a failing before unknown with this faultless animal. Under these inauspicious circumstances, the style of his slow trot, to a bystander, would appear only on a level with that of a sound horse possessing merely the ordinary degree of action, so that the owner would be the only person aware, from his knowledge of the previous merits of this animal, that he had lost any thing, Now, you will naturally ask, What has he lost? I answer, *the equilibrium or natural adjustment of the superincumbent weight.*

the laminæ in front of the coffin bone sustaining an undue proportion, whilst the function of the laminated structure of the bars and heels is limited, or partially suspended. Hundreds of horses, and even young ones, are annually sold in London as sound, which have suffered this deterioration, in defiance of the most scrupulous examinations as to soundness.

Now you will contend that, in the case I have proposed, of the horse being capable of trotting at the rate of twenty miles an hour, or being a weight-carrier up to the fleetest hounds, that he must possess elasticity: granted; but the question is, not what he now has, but the degree of elasticity he once possessed; and we can judge of perfection only by comparison.

Even a confirmed groggy horse, incurably lame, might be selected to accomplish one or other of the feats I have just mentioned; though I must acknowledge it would put in requisition the rare remains of one of Nature's masterpieces: still such a description of horse is to be found.

It therefore appears that an incipient defect of this kind may, under certain circumstances, alter the animal's action without occasioning lameness; and that a horse, either of breeding or of good mettle, when called into quick movement, has his energies so far excited as to be totally regardless of the rigidity of this spring; that is, supposing the navicular joint to be unimpaired.

Gentlemen, I fear you will think me prolix, especially as the object of this paper is the treatment of disease; but I cannot forbear, since this is the precursor from which the foot is suffered still further to degenerate, oftentimes for many months, before the most attentive observer thinks of consulting us (being unconscious of any disease existing), whereby our skill is frequently baffled in the treatment of the other formidable malady, which sooner or later supervenes. Moreover, the public have never been sufficiently warned of this antecedent disease by any writer on the foot: of course, I allude more particularly to the occult contraction, as connected with navicular lameness. The timely application of remedial measures for the *prevention* of lameness, would contribute more to the public weal than the discovery of an infallible cure for glanders; of such frequent and daily occurrence is this chronic foot lameness.

If the foregoing observations are well founded, it follows, that the first indication of cure is *the depression of the coffin bone*, in order that that bone, together with the navicular, may resume its original and natural situation, as will be found on the inspection of a considerable number of colts' feet, between the ages of three and four years, which approach much nearer the ground or base of the foot than is generally known.

By way of illustrating and speaking generally, I will venture to

assert, that the nearer the heels of the coffin bone, by the conformation of the foot, reach the surface of the ground, the less likely is the navicular joint to become diseased, and *vice versâ*. These instances are numerous in low heels and flat soles; but when such weak, thin feet occasionally fail with navicular disease, the cause may be generally traced to a bruise from a stone.

On this principle I account for the well-known fact of a certain description of active horses, possessing little or no pretensions to breeding, which appear exempt from contraction through life, resisting the constraint even of iron and nails. Their escape is owing to peculiar conformation, not only of foot but of leg, possessing large flexor tendons, likewise peculiarity of action, being all flexion with very little extension (going diametrically the reverse of the blood-horse), with their knees up, and flat upon their heels. In fact, they are for ever on their flexors; and, therefore, I may almost say, never have navicular disease, except when it occurs from an accidental cause, such as a severe wrench from slipping the foot in a hole, or any other sudden violence. In all such cases contraction of the hoof is an effect.

On the means by which the Coffin and Navicular Bones may regain their original stations, and be retained therein.

Here, Gentlemen, in my humble opinion, has been the stumbling-block. It is known and admitted that the ancient, as well as modern veterinarians, were successful in removing this lameness for a shorter or longer period; but books, both of the old and new school, abound with the fact of the too frequent recurrence of the disease, and its termination in permanent lameness. A most formidable barrier has been suffered to remain, which has rendered our skill abortive, even after we have removed the lameness and quelled all inflammation within the joint; for just here, too often, our exertions have ceased, having only subdued, though not crushed the enemy; that is, we have quieted the inflamed parts, but actually left them in the same state of dangerous encroachment on each other, as had before proved the predisposing cause of lameness: viz. *the unnatural elevation of the navicular bone and heels of the coffin bone;* therefore, a less assemblage of concurring circumstances than before will be sufficient to establish another attack of lameness, and much less of the immediate or exciting cause after each succeeding attack. But, to speak more plainly, if one bustling trot over the stones from this place to Mile-End would not effect it, a very few journeys of that sort, in quick succession, would almost insure it.

Nevertheless, these elevated coffin and navicular bones are not to be put down in the first instance by any compulsory measures

whatever; but the *treatment* should commence with the soothing system, viz. the abatement of inflammation, by *abstracting blood locally, until the system is affected generally.*

Six quarts of blood to be drawn at one operation from an artery encircling the lower edge and toe of the coffin bone, the hoof having been prepared as follows: The sole to be pared till small specks of blood begin to appear at every part; the bars to be entirely removed; and those channels or commissures between the bars and the frog to be excavated with a narrow drawing-knife to the quick, from end to end; the projecting part of the crust, which forms the ground surface, to be somewhat levelled with the rasp from toe to heels; but the shortening of the toe and lowering of the heels to be deferred till another stage of the treatment.

The next process which I have to recommend, I am apprehensive many practitioners may view as a most unwarrantable violation of nature.

It consists in the entire removal of crust or wall at the inside heel, and of the bar adjoining, with rasp and drawing-knife, as near to the laminæ as possible, without drawing blood, and extending this excision along the quarter, according to the urgency of the case, and the period of time allotted by the owner for treatment and rest, thereby leaving the inside quarter isolated from the other parts of the hoof. The direct object in view for sacrificing a portion of hoof so slow of growth *being to unfetter the inside heel of the coffin bone by removing lateral pressure from that wing of the bone;* but, after all, it must be admitted, that it is only the deprivation of an offending body; and I am urged to do this, not merely because I know it will grow again, but because I also know it will be my own fault if it is not reproduced in such an expanded direction as mainly to contribute towards the cure.

However, I generally find it prudent not to penetrate into the quarter more than about half an inch anterior to the heel of the coffin bone, terminating the scalp abruptly, which extends from the upper part to the basis of the crust in a straight line, preserving all the other parts of the quarter in nearly their natural substance; but this extensive sacrifice of crust may be quite uncalled for in many of the recent cases of lameness.

A bar shoe bearing on the outside quarter, and slightly on the frog, is now to be fitted to the foot upon the *unfettered* or side-nail plan; but previous to its application the artery at the inside toe to be opened, and the blood drawn as described; the shoe to be then applied, and the foot and coronet immersed in some cold emollient paste.

Half a dose of purging physic should be given, and the horse

turned loose into a large box, without exercise; his diet the same as in physic; the emollient paste to be applied the next day, lukewarm, and repeated daily.

About the third or fourth day he may commence walking exercise, on litter or a dry surface. About the fifth or sixth day after the operation, the shoe to be removed; and, if the orifice of the bleeding place is found to be healed, and free from fester, the blood-letting is to be repeated on the opposite toe, approaching towards the outside quarter. Immediately before the repetition of the bleeding is the proper time to lower the heels and shorten the toe *as much as they will bear*, yet taking particular care to leave a sufficient body of crust, at every part, to afford a solid basis for the shoe to rest upon, except at the inside heel, which has before been directed to be entirely removed.

With this fresh paring of the foot, the shoe will require to be refitted, and a single hole punched in the inside quarter, in order to receive a nail as a substitute for the one necessarily left out at the second perforation in bleeding.

The emollient paste and half dose of physic to be repeated, and the horse kept quiet for two or three days; after which time his exercise should not exceed a foot's pace. In about a week from the second bleeding the sole and commissures will bear another trimming; but the crust, bars, and frog, should now be allowed to grow.

At this stage of the case, an ointment composed of tar and hog's-lard should be applied cold to the sole, instead of the emollient paste, which may be still continued to the crust.

What has been said applies to a case of lameness of one foot only. When both fore feet are affected, I usually take about five quarts of blood from the lamer foot, and two quarts from the other, on the same day.

The sole and every part of the hoof should now be suffered to grow unmolested, except the toe, which is to be abruptly shortened at the expiration of every fortnight, regardless of the disfigurement of the foot, only taking care not to risk suppuration or fester by approaching too near the quick.

This, however, must be deferred till the horn at the bleeding orifice is sufficiently restored to allow of the horse standing without shoes, which may be soon discontinued, provided the patient is turned in the day-time into a loose box floored with sawdust, which should be watered daily.

I have a twofold object in view for *shortening the toe to an extreme* during rest under treatment: the principal one consists in rendering the front part of the foot very *sore*, so as to induce the animal to transfer his weight more towards the back part of his

foot, and on the navicular bone, thus rendering every minute that the horse stands conducive to the *depression of the navicular bone and heels of the coffin bone.* But it should be observed, that I am not urging the patient to bear his weight on the diseased joint till after its inflamed vessels have been relieved by the blood-letting.

The other advantage accruing from the removal of the toe is, the freedom which it affords to the quarters, by diminishing the great resisting power of the crust (which is generally morbidly strong at the toe in navicular lameness), and thereby favouring the return of the navicular bone, and heels of the coffin, to their natural situations in the horny box.

Those of the old school were accustomed to rasp the crust in front nearly to the quick, from the coronet three-fourths down, a practice which is now quite discarded, and, in my opinion, with sound reason, owing to a practical inconvenience which almost invariably occurred from it, viz. a transverse fissure or cleft between the new foot and the old, when the crust had grown about three parts down, and of itself a source of pain and lameness. The plan I propose is exactly the reverse, and consists in *removing* only that lower portion of the crust which they as studiously retained.

But there is another old method deserving of notice, which is, that of applying a high patten shoe to the sound foot, for the purpose of compelling the horse to stand upon the lame one, and which I highly approve as a principle in the treatment of these cases; but I much doubt whether it answers the intended purpose in the manner it is usually employed. It undoubtedly does oblige the groggy horse to bear more weight on the lame foot than he would have done without such constraint; but let us see how the suffering animal instinctively disposes of this distressing burthen: his coffin bone being sound, and his navicular bone being diseased, and perhaps carious, he will therefore naturally incline his weight towards the front of the foot, or fore part of the coffin bone: this will have no tendency to depress the heels of that bone, which, in my humble opinion, is of paramount importance. With regard to the application of blisters to the coronet, I am enabled to assert, that I have radically cured very numerous navicular cases by the aforementioned treatment without their aid; yet cases of this disease do occur in which I consider them important auxiliaries.

It may probably be expected that I should remark on frog setons: I have only to observe, that I do not adopt them; and I will here state my reasons.

As the treatment which I have recommended tends to restore lost functions to those highly elastic organs which are placed

at the posterior parts of the foot, partly by conciliatory measures, as well as by some coercive means united, such as will induce the animal to stand again on his heels and back sinews, instead of his toes and extensor tendons, I cannot with consistency pierce a deep hole through the horny and sensible frog, the very organ, of all, I am most anxious for the animal voluntarily to recline his weight upon during the progress of cure.

Remarks.

In the advanced stage of navicular disease, or grogginess in the fore feet, attended with considerable lameness, the symptoms are usually so strongly marked that it would be almost impossible for two able veterinarians to disagree in determining on the seat of disease; and therefore I cannot bring my mind to admit the expediency of a long detail upon a subject, which is familiar to all horsemen of every grade, provided they have been accustomed to the several varieties of horses.

The symptoms of the *precursor*, or disease antecedent to navicular lameness, I have attempted to point out, although, I fear, with tedious precision.

But with regard to the diagnosis of *incipient* navicular disease, on further reflection, I most fully concur with our Veterinary Society in its importance, and the necessity there is for some practical rules being laid down, ~~by~~ which we may with confidence pronounce on the existence or non-existence of this *joint* disease; but yet I cannot persuade myself that I can represent on paper the rules which have hitherto been my guide. Experience, however, has enabled me to decide on these cases with confidence, having devoted myself more particularly to foot lamenesses than to other diseases.

As we cannot have navicular lameness without inflammation of some part of the joint, which may be seated in the synovial membrane, or in the tendon forming the *exterior* of the joint, it may be as well to advert to the known symptoms of inflammation: First, increased redness; secondly, swelling; thirdly, pain; fourthly, increased heat. *Now* let us see how these four great lights conduct us to the navicular joint.

The first of these characteristics, viz. *redness*, avails us nothing the surrounding parts being covered with hair. The second, *swelling*, is seldom manifest in these cases, the inflamed parts being inclosed by the hoof. Third, *pain*, although indicated by lameness to be seated in some part of the limb, still our patient's tongue is no guide to us within a yard of the spot. Fourth and last, *heat*: this is too often fallacious; horses, like ourselves, are naturally subject both to hot and to cold feet when in health; and,

further, I have frequently met with chronic cases of navicular disease where the lameness has been perpetual though slight, in which no increased heat was perceptible in the coronet, or by feeling the *surface* of any part of the hoof. With the symptoms so unexpressive, I usually pare the soles of both feet extremely thin, when the extra proportion of heat in the lame one will be generally apparent by comparison with the other; but the throbbing of the pastern arteries is a more important criterion.

The other indication, viz. swelling, is only an occasional symptom of the disease, by a slight fulness round the coronet immediately above the hoof, which, when present, requires the discriminating eye of experience to discern it, and is generally most evident on the inside, towards the indented quarter of the hoof.

Pointing of the feet, or shifting one foot before the other in the stable, is doubtless expressive of pain, and is of itself a striking symptom of navicular disease; yet it cannot be denied, that there are many horses which have pointed their feet for years, and remained free from lameness even in quick work. In such cases, I am of opinion there exists a dull chronic inflammation in the tendon exterior to the joint, the articular surfaces of the navicular joint remaining quite perfect in structure.

Although all groggy horses do not point, I mean to contend, that a much greater proportion of those labouring under navicular lameness do evince this symptom than is generally known.

I usually ask the question, in these cases of lameness, whether the horse points his foot; and am frequently answered by the master and servant, both at the same instant, in the negative; and very fairly, too, they not deeming the horse a pointer unless he projects his foot under the manger. However, my rule is, never to place any reliance on this statement; and, therefore, on a quiet examination in the stable, *unobserved* by the animal himself, I generally catch him in the fact; probably not extending the lame foot out a yard before him, but projecting only about a hand's breadth before the other foot, the muscles of the sound limb all tense, and principally supporting the superincumbent weight, whilst all the joints of the lame limb would faintly exhibit a relaxed position, the animal evidently reclining his weight on the extensor muscles and tendons, from the knee to the front of the large pastern joint, not conveying any to the sessamoids, and, finally, receiving it entirely on the front of the foot. Many horses acquire this mode of shifting their weight in the stable without pointing the foot, or betraying the least visible suspicious circumstance, except to a judge expressly on the look-out.

As a proof, I have repeatedly seen the lame foot apparently

flat on the pavement, when, on a more close inspection, I have observed a sound straggling straw or two lying between the heels of the shoe and the pavement remaining entire, and escaping being flattened for a considerable time, in fact, till something disturbs the animal, or attracts his attention. I could very much wish to call this *false pointing*, in contra-distinction to *direct* pointing. There is also another mode of shifting and easing the foot, which is more obvious, viz. the bent or tremulous knee.

Pain, together with this continued habit of resting, diminishes the size of the limb generally, from the hoof even to the muscles covering the shoulder-blade or scapula; but in cases of very long duration, I beg to invite your attention to a considerable alteration in the mass of muscle immediately above the olecranon, called the triceps extensor cubiti, which seems preternaturally contracted, and ceases to exhibit that plump and prominent appearance observable in the sound limb of the living and well-formed horse.

Running the patient in hand at a slow trot materially assists us in forming our diagnosis, by observing the manner in which the lame foot is placed on the ground, whether flat, or principally upon the toe or the heels; but I feel quite at a loss to delineate on paper the peculiar gait of the animal, which I have observed in these lamenesses.

Before I pronounce the case to be navicular lameness, I scrupulously examine the *external* foot for every probable cause of lameness; and, having removed both shoes, and pared the soles, I minutely compare the ground surface of the lame foot with the other, to ascertain whether occult contraction has taken place or not: this is not, however, to be expected in every case, as it is well known that many navicular lamenesses have occurred momentarily, as in hunting or other violent exercises. I have omitted to mention, in the requisite order, another not unfrequent cause of navicular disease, viz. the general inflammation consequent upon the accident of casting a shoe, and the animal travelling a considerable distance before the rider may have been apprised of it. It is not very uncommon for such an injury to leave a chronic lameness after the complete reproduction of horn, which may have been a process of many weeks' growth.

We are called upon to treat the navicular disease under various degrees or shades of the same disorder. The case may be either acute or chronic. The lameness may be as sudden and considerable as sometimes proceeds from a fractured pastern or cannon bone; or it may be so slight as to require a close inspection on pavement to discern it. The disease may have been of very

long or short duration, and yet exhibit lameness only in a slight degree.

A horse that had never shown an hour's lameness in his life leaves his stable in the morning perfectly sound, continues sound the greater part of his journey, and momentarily, without any apparent cause, drops violently lame: the rider as suddenly dismounts, with the impression that his horse has picked up a stone; takes up his foot, but looks in vain for the stone, or any other cause to account for this visitation; and many instances will this recall where horses were never subsequently restored to a sound working condition.

Such a lameness I conceive to be an actual lésion or rupture of some part of the delicate synovial membrane; and although the opportunities are few of dissection of these cases of lameness, when recent, yet I think I have observed that which will warrant me in stating, that the membrane lining the tendon is more frequently the part first injured than the bone or its synovial covering, the spot being generally within or very near the concavity in the tendon which receives the corresponding convexity of the navicular bone. But when the bone or its articular cartilage exhibits disease, it is invariably confined to that portion of the under surface of the navicular bone which is placed nearest the sensible frog, and is most apparent towards the middle of the convex ridge of that bone.

From the facts that I have collected relative to groggy lameness, I am thoroughly convinced we have as much control over the early stage of this disease as we have over any less important organ when attacked with inflammation; for, complex as this joint confessedly is, and although composed of materials such as tendon, ligament, and cartilage, parts not remarkable for inherent renovating qualities, still I am convinced they possess enough for our purpose, provided we promptly perform two offices.

The first, and which is indispensable, consists in bleeding from the inflamed part till the quantity abstracted locally has affected the constitution generally.

I should like to be informed whether this plan of combating with local diseases of the inflammatory kind is practised in human surgery—that of abstracting *arterial* blood locally till the heart and system generally are affected.

I hope you will excuse the introduction of the following speculative remarks as to the *modus operandi* in this method of bleeding.

When inflammation exists in the limb of any animal to an alarming degree, it is not sufficient merely to lessen the contents

of the inflamed vessels, and materially diminish their volume, but one thing more should be effected, precisely at this juncture, viz. syncope, or that state of the heart which is a near approach to it; and thus, for one or more moments, the whole vascular system is interrupted or stopped; but reaction presently succeeds in the capillary vessels of the inflamed part, which, before the blood-letting, were on the point of rupture or loss of vitality, arising from over-distension, and which have just time to contract vigorously on their diminished contents one second before the fresh charge is supplied from the great pump and arterial trunks.

It may be argued, that the taking of one half the quantity from the part affected, and the other half by general bleeding, in immediate succession, would answer the purpose equally well. I apprehend not, and for this reason: since I conceive that the influence of the operation on the inflamed part and on the heart is reciprocal by the plan I have proposed; but in the other method there would be this important difference, that while blood was flowing from the system generally, the reaction would commence in the capillaries of the inflamed part before syncope could be produced, and therefore just at the crisis their volume would have again become too great for the vigorous contraction before mentioned, and, consequently, the patient would only be relieved, instead of being cured.

The other indication of cure, and which is of no less importance to prevent the recurrence of inflammation within the navicular joint, consists in the return or *detrusion* of the coffin and navicular bones to their original and natural situation within the horny box; but even this having been accomplished, and the case no longer requiring treatment, we have yet another duty to perform: this is, to warn the owner against the *slow though certain* evil that will again accrue to this joint if the animal is subjected to long intervals of confinement in a stall, one of the remote or predisposing causes of this disease, and which is almost invariably applied to the greater proportion of the most valuable horses kept in London.

Servants have an aversion to dirty their horses' legs when their masters omit to work them.

For my remarks on this unnaturally quiescent state of the foot, together with the various concurring circumstances which establish this destructive and prevalent disease, I beg leave to refer you to my navicular paper, published in "THE VETERINARIAN" for February last (1829).

I feel particularly anxious not to be misunderstood as to the kind of navicular cases that I have confidence in being able to cure.

With the acute or recent case, accompanied by very considerable lameness, there will be a better chance of a radical cure than with a chronic case, attended by only a slight lameness, though both such cases may, nevertheless, be within the pale of perfect recovery.

A large number which we are called upon to treat are cases of long standing, but yet not notoriously lame horses. Some of these that may not admit of a radical cure, owing to the duration of the disease and consequently defective organization of the joint, may yet be relieved beyond the most sanguine expectations of their owners, by removing the rigidity of parts (as before detailed) exterior to the joint, and constantly furnishing emollients, in order to preserve elasticity. For this latter purpose, when in work, the old simple plan is very serviceable, of stopping the soles at night with cow-dung, and anointing the crust with neat's-foot oil.

On the other hand, there are many in the more advanced stages of navicular disease afflicted with a degree of lameness distressing to behold, which are greatly relieved by a directly opposite mode of treatment; such as giving way to the disease by allowing the heels to grow high, propping them up with thick heel shoes or calkins, and facilitating the efforts of the extensor muscles to catch the superincumbent weight, which thereby falls exclusively on the coffin bone, leaving the carious navicular bone exempt from its share of the burthen. This plan of treatment mitigates the animal's sufferings, but precludes the possibility of cure. Yet in such a lost case this is the most humane and rational mode of proceeding.

Mr. Professor Dick, of Edinburgh, has lately remarked, that the ulcerated surface of the navicular bone, in protracted or severe cases, is frequently so extensive that, after the nerves have been divided, the *friction* between the tendon and the navicular bone completely divides the tendon, and the pastern falls to the ground. I advert to this for the purpose of showing, that the *friction* here alluded to is not always necessary to constitute the failure of the operation in old and extreme cases of the disease; for I have, on several occasions, been an eye-witness to the giving way of the flexor perforans tendon at this part, immediately on the animal's being allowed to get up after the operation of neurotomy, and the pastern let down accordingly. To prove that very many of these advanced cases of navicular disease are altogether improper subjects for the nerve operation, I have repeatedly, on the dissection of such cases (which have been destroyed by their owners rather than have them submitted to the operation), observed the tendon so attenuated by absorption

opposite the caries of the bone, that, upon holding it up between the light, I could distinctly see through its few remaining fibres.

This single pathological fact clearly shows the control which is reserved to the afflicted animal over his extensor muscles, in rendering them subservient to the flexors, and thereby averting the rupture of this disorganized part; and which is never known to happen, however extensively diseased, unless neurotomy has deprived it of feeling.

Notwithstanding these unsuccessful cases, I have much to say in favour of the nerve operation, for the practical utility of which we are unquestionably indebted to Mr. Wm. Sewell, of the Royal Veterinary College; but I feel no reluctance in postponing my remarks on that súbject to a future opportunity, seeing that its merits and demerits are now under the investigation of an able and experienced member of our profession, Mr. Castley, Veterinary Surgeon to the 12th Lancers.

I have much to point out on a particular method of shoeing, which favours the return of the navicular bone to the original station allotted for it within the hoof, but which, however, must be reserved for another occasion; though I beg to be allowed simply to mention what I conceive to be an important acquisition arising from the *unfettered plan of side nailing*—I advise the adoption of the French method of nailing in that portion of the hoof which is intended to be pierced with nails; viz. round the toe and outside quarter; and I have had the satisfaction of finding that it secures the shoe in its place, for three weeks and upwards, as completely as the English method of fastening high up in the crust. But it is quite necessary to acknowledge, that I have, as yet, only practised it, by way of experiment, in conjunction with the *unfettered system*, on very *tough* and *strong* hoofs. I believe we are indebted to Mr. Joseph Goodwin for introducing, and first recommending the adoption of, the French method of shoeing in this country. I subscribe only to the nailing part of their method, and adopt it with a view of its merits, which does not appear to have been pointed out by Mr. Goodwin, or by any other writer with which I am acquainted. I can only explain my object by first contrasting these two well-known facts, that the English nailer invades the protecting wall of the foot, plunging his long weapons their utmost depth into it, short only of the point, which comes out to form the clench nearly as high as the middle of the crust, nothing daunted: no blood follows; and therefore he suspects no danger, but repeats the assault again and again. Nor, indeed, has he done any mischief that is *visible* at the time: the horse trots away sound, and returns again in a month, still free from lameness, for a repe-

tition of this apparently harmless operation; but the bane appears in the sequel.

And we find the French nailer an invader too, but with this important difference,—his weapons are short, his grasp moderate, and his position most happily chosen, being content with dividing his hold between sole and crust.

Now these facts are well known, and have been clearly pointed out by Mr. Goodwin; but I think the conclusions which have hitherto been drawn from them are insufficient to explain the merits of French nailing. Those who may wish to know Mr. Bracy Clarke's notions of French nailing, have only to refer to his writings on shoeing, in which he condemns the French system *in toto*, but their method of nailing in particular. This scientific work of Mr. Goodwin's, giving an account of the various modes of shoeing horses, as practised by different nations, contains much practical information, with all the minutiæ relating to the mechanical execution of the art of shoeing.

The view I take of the matter is this:—That nails, in a clenched state within the quarters of the hoof, are not so detrimental to the sensitive organs contained therein while the animal is in action, by occasioning concussion, as has been supposed. But I believe this delicate piece of mechanism suffers from their baneful influence, by more slow degrees, while the foot is in a quiescent state, as in the stable they mechanically assist in opposing the descent of the heels of the coffin bone, by their rigidity against the wings of that bone; and therefore may be considered as the first, if not the chief, predisposing cause of the *equilibrium, or balance of weight, being lost within the foot.*

The French nails I conceive to be comparatively harmless, from the circumstance of their occupying only the margin of the crust; therefore not approaching so near to the sides of the coffin bone.

Most of the old writers on the foot of the horse remark on the constraining effect of iron and nails on the hoof; but their evil tendency is more plainly shown by Professor Coleman in his "Treatise on the Foot." Nevertheless, we are indebted to Mr. Bracy Clarke's incessant and forcible declarations respecting their baneful influence, which have been published since; and yet this shrewd observer continues to *fetter* the foot with them on both its sides, although practice now shows that full one-half of this precious organ may be left *free as air*, and yet perfectly *defended*.

CASES OF NEUROTOMY.

By Mr. Edward Rickman, *V. S. to the S^o. Salopian Yeomanry Cavalry.*

Gentlemen,—It was with great pleasure that I read Mr. Castley's Letter *on the Navicular Disease and Nerve operation,* in your last number; as I am one of those who think the operation ought not to be discarded, and, when proper cases are selected, the veterinarian will not fail in giving satisfaction to his employer, and will reflect credit upon himself.

I have been in business in Shrewsbury nine years, during which time I have operated upon nine horses, and which have done exceedingly well, particularly three of that number.

CASE I.

A bay gelding, five years old, the property of Mr. Wheeler, of the Raven Inn, in this town, became suddenly lame upon the near fore leg, without any apparent cause; his foot was examined, and every means were taken to ascertain the cause of his lameness: he was repeatedly blistered round the coronet, and turned out for three months; at the expiration of which time I saw him, and he was then so lame that he could scarcely walk into the stable. I recommended the operation of unnerving, but Mr. Wheeler had a great aversion to it; and it was some time before I could prevail upon him to allow me to do so. I at length operated upon him below the fetlock, but, from some motive or other which I now cannot account for, I only took out about a quarter of an inch of the nerve. The horse got up perfectly sound, and in a short time afterwards Mr. Wheeler put him in harness, and used him as a post horse for twelve months, when he again became lame: it then occurred to me, from the very small portion of nerve which I had taken out, that the nerve might have united, and I again operated upon him upon the fetlock joint, and removed rather more than an inch: he got up perfectly sound, and worked as a post horse for nearly three years, when he met with an accident on one of his hind legs, and was shot.

CASE II.

Was a very beautiful chesnut horse, then six years old, the property of a farmer in the neighbourhood, who had refused one hundred guineas for him. He had very good circular feet, but rather strong: he became a little lame in both, but rather more so in the near one. The farrier who attended him used every means to get him sound, such as paring the soles, blistering his

coronets, &c. and finally, I believe, he fired him from his hoofs up to his knees; he was then turned out for six months, and came up worse than when he went out. The proprietor became quite tired of having him *farriered* any longer, and was determined to sell him for what he would fetch.

Mr. Robert Wilding, a friend of mine, related the case, and wished my opinion respecting the operation of unnerving: I advised him to buy the horse, which he did for £12, and I operated upon both legs below the fetlock joint: the horse got up quite sound, and Mr. Wilding, who is a very superior horseman, rode him two seasons with the Shropshire hounds, and whenever they had a run he was always in front. At the end of one very long run, Mr. Wilding so far distinguished himself, that a gentleman offered 200 guineas for him; but Mr. Wilding would not warrant him sound, consequently the bargain was not concluded. He was afterwards sold as a nerved horse to a Mr. Gittins, for very little short of 60 guineas, who rode him two years with Sir Richard Puleston's hounds; and the last time I heard of him was, when a gentleman told me he saw Mr. Gittins ride him over a very high park fence, near Sundorn Castle. He had then been operated upon four years, and went perfectly sound. This horse was considered one of the most brilliant leapers that was ever put to a fence.

CASE III.

Was a large brown horse, seven years old, belonging to a medical gentleman at Wenlock, in this county. This horse had very good feet, although rather strong. In the summer, which was a very hot one, he became lame on the near fore leg, and every means were taken to discover the cause of his lameness: he was bled in the toe; a seton passed through the frog; blistered on the coronet; had several doses of aloes, &c. all to no purpose: he was then turned to grass for several months, and, like the chesnut horse, came up worse than when he went out. Mr. Humphreys, a grocer of this town, then bought him for £10, and I operated upon him below the fetlock joint: he got up quite sound, and the wounds were so very nicely healed, that no one could discover he had been unnerved. Mr. Humphreys, a short time after, made an exchange with a gentleman for a horse which he (Mr. Humphreys) sold for £70. The gentleman, I believe, drives the horse which I unnerved in his gig up to this day, perfectly sound. The other six Cases all did remarkably well, and worked for several years.

I very much regret to learn that no farther change has taken place at the Veterinary College relative to the examination of veterinary pupils—as it is no uncommon thing, in this part of the country, for a young man to leave off striking in a forge, or drawing a porter's truck, and go to London for a few months, and return with a diploma: for instance, there are two individuals in this town and neighbourhood practising as veterinary surgeons, one of which had no further opportunity of acquiring veterinary knowledge than striking for his father, who keeps a little blacksmith's shop in a small town in a contiguous county: this young man went to the Veterinary College, and in nine months returned with his diploma. The other was a porter in a druggist's shop in St. Paul's Churchyard, in London, who never had any opportunity of making himself acquainted with the nature and diseases of horses until he went to the College: he was there but a short time, and I am also informed that he has got his diploma. The way in which these gentlemen practise I will notice in one of your future journals, and then the profession shall judge how far they are qualified. There is no man in the profession that respects Messrs. Coleman and Sewell more than myself; but when one comes to think of these gentlemen allowing such men to receive diplomas in so short a period as I have stated, in my opinion a flagrant insult is offered to the profession.

ON THE VETERINARY MATERIA MEDICA.

ACACIA CATECHU.—Catechu.

Class 23.—*Polygamia.* The stamen and pistils separate in some flowers, and united in others, and either on the same plant or two or three distinct ones.

Ord. 1.—*Monœcia.* United flowers, accompanied by male or female, or both, and all on one plant. This shrub has the perfect flowers, and the male ones only.

The catechu imported from Bengal and Bombay is the produce of a large shrub twelve or fifteen feet high, and bearing a pale yellow flower, found in all the hilly districts of Hindostan. It is procured from the inner wood of the tree. The inner bark is exceedingly bitter and astringent, but the inner wood possesses more of the astringent principle. This, after being cut into chips, is boiled in water until half of the water used is evaporated: the liquid remaining undergoes a fresh process of evaporation, and it is reduced to a sufficient consistence, and then dried in the sun.

There are two varieties of the extract: one in dark, rounded, hard masses, chiefly from Bombay; and the other in square pieces, lighter coloured, and more easily pulverised, from Bengal; but often both varieties are found in the same package. The darker contains more of the tannin principle, and less of extractive matter, and is, on the whole, preferable; but both are mixed with earthy matter and sand, from carelessness in the preparation, and often fraudulently to increase the weight.

The old name of this drug was Terra Japonica, or Japan earth; it is, however, a vegetable extract, often, indeed, adulterated with earthy matter. It is sparingly soluble in water, and the quantity of residuum, after the catechu has been triturated with ninety times its weight of water, will indicate the degree of adulteration.

Catechu ranks in the human pharmacopœia as an unirritating and powerful astringent. There is considerable difficulty in explaining the mode of action as it regards this class of medicines; but every day's experience abundantly proves that certain drugs, internally administered, have the power of restraining unhealthy and immoderate discharges of various kinds. The effect seems to be in some degree mechanical: the relaxed and open vessels being contracted and closed, the term *astringent* was used, or, possibly, some chemical action might be exerted on the fluid within the mouths of these vessels, some coagulation of the fluid might take place within the vessels, and thus the flux or discharge might be arrested. It is not merely a tonic power which these medicines exert, removing the debility of the vessels or parts; for many of the most active and permanent stimulants have little or no astringent efficacy, and some of the best astringents exert no influence on the pulse, or have any power as tonics. Astringents, then, may properly be considered as forming a distinct class of medicines, somewhat allied to the tonics, but differing materially from them.

There has been found widely diffused among plants a principle recognised by chemists under the name of *tannin*. Among other properties, it possesses the important one of combining with gelatine or jelly, and converting it into a condensed and firm, and almost insoluble compound; and thus it is that the tannin in oak bark unites with the skins of animals, and converts them into *leather*.

The student may make some pleasing and satisfactory experiments respecting this affinity between tannin and gelatine. Into a weak solution of isinglass let a few drops of a filtered solution of catechu be poured, and a considerable precipitate will be thrown down. If a great proportion of the catechu be used, a co-

agulum will be instantly formed, firm, not subject to putrefaction, and insoluble except in an excess of gelatine. Into a small quantity of soup, or broth, let a little of the solution of tannin be dropped, and a curdy precipitate will be formed. Tannin constitutes half of the substance of catechu, and something resembling these experiments, but, modified by the influence of the vital principle, may be the effect of the catechu when taken medicinally. Either it may constringe or contract the parietes of the exhalent vessels, composed principally of gelatine, or it may coagulate the fluids contained in them, and arrest their progress.

The first and immediate effect is, to restrain excessive discharge. That discharge is kept up by the irritable state of the exhalent mouths. The discharge being stopped or lessened, this irritability rapidly subsides, and the irritability of the neighbouring parts over which the discharge had flowed, and, gradually, of the system generally, and of the determination of blood to the over-excited part, and the exhaustion of the system, and health, rapidly returns.

Some narcotics are valuable as astringents. Opium is our sheet anchor in superpurgation of the horse, the ox, and the sheep. The undue discharge is prolonged by the irritable state of the vessels: that irritability is diminished by opium, and the discharge is lessened, or ceases.

The principal action of catechu is on the exhalent vessels of the intestines. It follows the rule of many other drugs, whose primary influence is chiefly or entirely excited on some particular organ or portion of the frame.

The astringent power of catechu in the horse is not very great, although we are disposed to consider it as a valuable addition to opium and chalk in the treatment of superpurgation. The usual quantity exhibited would be a drachm and a half or two drahms, repeated twice or thrice in the day, according to the urgency of the case, combined with a drachm or a drachm and a half of opium to allay the intestinal irritation, and four drachms of chalk to neutralise the acid principle which is uniformly evolved in severe purging.

In the East Indies catechu is exhibited, and, it is said, successfully, to tame vicious horses. The dose is two ounces daily. The *modus operandi* is not quite evident, except that not only may the passage of fluids through the exhalent vessels be arrested, but also through the lacteals, and, therefore, a sufficient quantity of nutriment may not be absorbed.

Of the effects of catechu in arresting the diarrhœa and even the dysentery of cattle, we can speak with more confidence. It is given, combined with opium and chalk, in doses of from two

to three drachms. Opium alone has often palpably failed; but the catechu, with half a drachm of opium and an ounce of chalk, will often be of great service. It is an indispensable ingredient in the "Calves' Cordial," or astringent medicine for the cure of the "skit," or "scouring," or "running out," in sheep and calves; and still combined with opium and an absorbent, and more particularly a carminative or aromatic being added. The dose would be, half a drachm to a lamb, one drachm to a sheep, and one and a half to a calf, with from ten grains to a scruple of opium, one to three drachms of prepared chalk, and one scruple of ginger or two of caraway powder.

In the treatment of distemper-purging in the dog, it must never be omitted; for, owing to the irritable nature of the stomach of the dog, a sufficient quantity of opium can rarely be administered. The dose will vary from a scruple to a drachm, with from a quarter to half a grain of opium and the chalk, and ginger or caraway. To vary the medicine in obstinate cases, powdered oak-bark may be given in the same doses.

It is, perhaps, scarcely necessary to add, that in the use of catechu, and the astringents generally, except in superpurgation from physic, one or two doses of the neutral salts should be previously given, to carry off any acrid matter that may possibly cause or prolong the discharge: and that the practitioner will be exceedingly careful never to check those critical discharges by which Nature is freeing herself from that which offends, and on the encouragement of which a restoration to health may depend.

A knowledge of chemistry, shamefully neglected in our national school, will show us, that few substances can be blended together without a change of properties being effected in them. That effect, for the sake of which a certain medicine is given, may, by the chemical action of another ingredient in the mixture, be weakened or destroyed, or dangerously increased, or even an effect perfectly contrary to that which was intended may be produced. We should, therefore, give due attention to what Dr. Paris (whose "Pharmacologia" we would earnestly recommend to our young readers) calls the *Incompatibles*, or the substances which change or destroy the virtues of some of the ingredients.

It must not be combined with any alkali, for the tannin would unite with it, and form an inert compound—the tannate of that alkali; nor with any carbonate of an alkali, for the carbonic acid would be driven off, and an inert tannate of the alkali would remain. We have, however, recommended the union of prepared chalk (carbonate of lime) with the catechu, and with the knowledge that we were losing much of the astringency of the catechu, and the neutralizing power of the chalk. We unfortunately had

here two objects to effect,—the stopping of the purging, and the neutralization of the acid which accompanies long-continued purgation; and, therefore, although we were weakening both of our medicaments, we hoped that some of their original virtue might remain in each to accomplish both our objects. It will, however, be for the practitioner to judge, how far a principle of acidity may prevail, requiring the absorbent alone, or mere irritation or weakness of the exhalents requiring the catechu, or when it may be prudent to mingle the two, although the power of each be lessened by the union.

The catechu must not be given with starch or gruel. Starch and gruel are excellent emollients, as well as nutrients, in the diarrhœa of the horse, and we should ponder well before we relinquish them: but if they fail, and we resort to the catechu, the starch must no longer be administered; for a powerless precipitate of the tanning matter would be formed by its union with the fecula or starch.

We are not in the habit of giving any of the earths, or earthy bases, as they would be incompatible; and so, decidedly, are all the metallic salts. Tannate of copper, or of iron, or of lead, would be formed, and the acid with which they were previously combined would remain free in the mixture, injurious or destructive. The student would do well to drop a little of the solution of catechu into one of sulphate of copper, or iron, or tartarized antimony, or acetate of lead, and observe the abundant precipitate which is given.

We have used the tincture of catechu with much advantage in healing recent wounds. Two ounces of the powdered gum were digested ten days in a pint of proof spirit. Its astringent property rendered it more balsamic than even the complicated and expensive compound, tincture of benzoin.

ACACIA VERA.—Acacia Gum, or Gum Arabic.—*Class* 23, *Order* 1.

Polygamia, Monœcia.—This is the produce of a low, withered-looking tree, growing principally in the Barbary states, and particularly in Morocco. The gum exudes mostly from the weakly trees, and hardens in the air. The white is most esteemed for the mixture of paints; the pink is equally good as a demulcent: a darker coloured and less soluble variety is imported from the East Indies. The gum of the English druggist is adulterated with that which is yielded by the cherry and the plum, and a variety of other trees.

It is useful for rolling and giving firmness to some of our small balls for dogs, and likewise for suspending an astringent powder when the dog cannot be forced with a ball: but no metallic compound must be thus suspended, or considerable decomposition ensues. Internally it is given as a *demulcent*, to shield an abraded or irritable surface from the action of any acrid or stimulant matter; and although it must be essentially changed in the process of digestion, and lose that viscidity on which its effect was supposed to depend, we are confident that we have frequently given it with advantage to the dog in the discharge of bloody urine, to which that animal is so liable.

THE VETERINARIAN, JANUARY 1, 1830.

Licet omnibus, licet etiam *nobis*, dignitatem artis *veterinariæ* tueri.—CICERO.

We commence our third volume, and an enlarged series, with feelings of unfeigned and ardent gratitude towards those by whose kind and fostering support our work has arrived at its present growth and maturity. We take to ourselves some pride for having established this mode of communication among the practitioners of the veterinary art, and for having elicited from so many of them information highly useful to us in our neglected and half-educated state, and which would otherwise have lain for ever dormant. It is, however, our correspondents who have made our Journal what it is, interesting and instructive, and not afraid to compete in real value with any which older and better schools on the continent have produced.

Our correspondents were slow in coming forward. With the exception of one short paper from our old and respected friend Mr. King, five Numbers were published without one contribution to which the writer vouchsafed to affix his name. This was somewhat disheartening, but it was probably right, and we do not now regret it. Our professional brethren were determined to try and prove us before they identified themselves with us. Our simple claim to their notice and support was, love for our profes-

sion, and a determination to vindicate its respectability. This has been our leading star; and, guided by it, we have pursued a steady and undeviating course. The acknowledgment—the valued acknowledgment, and the reward of our consistency, has been, that we have, at the present moment, a list of contributors, of which, not only our humble periodical, but the veterinary profession, may well be proud.

By their kind and effectual support we are not only enabled, but absolutely compelled, to enlarge our Journal; and our plan will undergo a slight alteration, suitable to our increased space. The "Anatomy" will be continued. Some of our readers have told us that it is a very dry portion of our work; others, and including many veterinary students, have repeatedly thanked us for it, as the most valuable division of our Journal.

We shall be enabled to allow many additional pages to our correspondents, although we find that we cannot, even now, give immediate admission to some communications, the excellence of which we truly appreciate.

Every Number will contain an article on the Veterinary Materia Medica. When some practitioners have recourse to drugs almost as numerous as those which occupy the human dispensatory, and others admit not more than half a dozen; and these common and cheap; and, somewhat incautiously, talk of carrying in the pocket all that will or can be wanted:—when several medicaments, on which practitioners of experience and character place no little reliance, as accomplishing a certain indication of cure, are described by others as having an almost opposite effect; and, by a third party, as totally inert, the attempt at, or approach towards, some acknowledged pharmacopœia, will be evidently most desirable; although these very circumstances will render it impossible for us to class the various articles as we could have wished, and will drive us to the humble and somewhat inconvenient arrangement of an alphabetical order.—Communications, as to the power and efficacy of certain drugs, either previous to or after our consideration of them, will be very thankfully received. Every Number will likewise contain some Essay, either on the anatomy or diseases of cattle, sheep, or dogs.

This, we trust, will be considered a valuable addition to our work.

Our leading article!—While we are supported as we now are, and as we will deserve to be, it will not be necessary for us often or long to obtrude ourselves *in propriis personis* before the public. The leading articles will be continued; but they will be long or short, and more or less prominent, as subjects may present themselves. As much as possible, they will be devoted to useful practical matter; but we shall never lose sight of our grand object, the vindication and improvement of our insulted and degraded profession.

The present year commences under mingled favourable and threatening auspices. We cannot forget, that, in the year that has closed, the Committee of Governors—men respectable and honourable, yet labouring under a delusion for which our philosophy and the kindest interpretation of their warmest friends cannot account, and showing that they could never have understood, or to any essential purpose studied, the true interest of the profession over whose destiny they preside, have offered to the great body of veterinary practitioners two of the most flagrant insults which malignity could have devised, or ignorance, folly, or fatuity, have carried into execution. They have excluded the veterinary practitioner from the Veterinary Examiners' Board, and have entrusted the important duty of determining on the competency of the veterinary pupil to members of a different profession, who could not possibly know any thing of the matter, and who, feeling their insufficiency, candidly, and honourably, and repeatedly, but ineffectually, petitioned that some veterinary surgeons should be added to their number, to guide and sanction their proceedings; and, more than this, when the Professor of the Veterinary College, whatever different representations of the subject he may have been supposed to have given to different persons, or whatever may have been said as to his *private* wishes, felt himself compelled publicly to advocate the propriety and necessity of such a union.

Then, as if it were not enough that the veterinary surgeon is disgracefully excluded from that board, a place at which, when

he had obtained the requisite skill, and knowledge, and reputation, he might challenge as a kind of birthright, the governors have determined that he shall not be admitted as even a subscriber to the College. He is declared to be an outcast from the school at which he was educated, and which he loves. He is denied a privilege most enviable to him, and which he would not, could not have abused,—a privilege granted to every other member of society, be his situation ever so low, his character ever so degraded.

Worse even than this! the veterinary practitioners publicly convened, and occupied in the consideration of the *honour* of their profession, disgraced themselves by a scene of disorder, uproar, malignity, and blackguardism, which the annals of tumultuous assemblies will scarcely equal.

This is the dark side of the picture: there is, however, much to relieve it, and to enable us to regard it, if not with satisfaction, yet without despondence. First of all, we would direct the attention of the governors and the professors of the College, and even of the *pro-collegiates* who so distinguished themselves on a late occasion, to the undeniable state of public feeling. Is there an individual competent to judge of the matter who does not censure and wonder? Among the practitioners of human medicine is there a solitary advocate for the exclusion of the veterinary surgeon from his own board of examination? Among the practitioners of the veterinary art, and who from habit and feeling are interested in the character and prosperity of the College, is there one who is thoroughly satisfied? Among the *personal friends* of the professors or the governors, is there one who does not feel and lament imperfections and errors at head quarters? and from those in the higher ranks of society, and of paramount influence and power, have not some sufficiently intelligible hints been received? What must ere long be the inevitable result of all this? Can negligence and corruption maintain their ground against the force of public opinion?

The influence of the Veterinary Medical Society on the character and worth of the members of the profession, devoting itself, as this society purely does, to the search of truth and the dissemination of useful knowledge, is neither slow nor uncertain.

The veterinary periodicals, so far as their aim and object is honestly the advancement of science, and the reformation, not the destruction, of our national school, are, likewise, exerting no little influence on the public mind,—an influence rapidly increasing, and which cannot ultimately be opposed.

In addition to all these circumstances, the veterinary surgeons of the next generation will be essentially different in merit and in reputation from many who have been most unjustifiably admitted among us. *A longer residence at the seat of instruction will now be required from every pupil.* We much regret that Mr. Coleman should, in the agitation and nervousness of an introductory lecture, have omitted to state this to his class. The pupil should have been honestly apprised of what he had to expect. The public, however, has not forgotten, nor have we forgotten, that Mr. Coleman has distinctly announced, that no student, admitted after the summer of 1829, will be permitted to apply for his diploma until he has resided at least a twelvemonth at the Veterinary College. The profession will demand that that which has been publicly announced, and which is so just, shall be strictly enforced.

How could the medical examiners so long reconcile it to themselves to admit among us these three or four months' men? *Would they not have felt themselves insulted and degraded had such persons been foisted upon them?*

These things must work their way; and, in the mean time, we are willing to remain silent but not uninterested spectators. We wish for peace among all parties—among the profession generally; and we will more than meet every overture which has for its object the accomplishment of the purposes for which we have contended: but we and the public are no longer to be cajoled and duped; and if we are forced again into the field, we shall be ready and determined to strike with surer aim at the root and source of all the evil.

So far as our friends will afford us room, we shall review or analyse not only every new work immediately connected with veterinary science, but those which have a more distant but important relation to it. Our domestic and foreign journals, medical and scientific, will be laid under contribution; and from every source we shall endeavour to glean a little, occasionally to amuse,

and oftener to instruct. We will not be idle, and our readers must, as hitherto, be indulgent.

We have lately perused, with much pleasure, the prospectus of a work speedily to be published, by Mr. Vines, of the Veterinary College, on "Glanders and Farcy."

Mr. Vines has had ample opportunity of becoming acquainted with the character of these sadly untractable diseases; and we understand that he means to develope a new and very successful mode of treating them.

There is no student that has left the College for many a year past who is not under much obligation to this gentleman, and who, in fact, is not indebted to him for all that he knows of the anatomy of the horse.

Mr. Vines has been, and is, most inadequately remunerated at the College. To us he has never complained, and we believe that he would scorn to do so; but we have collected from different sources a little history that would scarcely be credited.

The veterinary student has now an opportunity of showing his gratitude to his old and very efficient demonstrator. The subscription will be half a guinea, received either by Mr. Vines, at the College, or Mr. Long, 217, High Holborn, and, we will venture to add, ourselves.

Review.

Quid sit pulchrum, quid turpe, quid utile, quid non.—*Hor.*

A Treatise on the Care, Treatment, and Training of the English Race Horse, in a Series of Rough Notes. By R. Darvill, *V. S. 7th Hussars.* London: Ridgway, Piccadilly, 1828.

[Continued from vol. ii, page 519.]

ON VENTILATION.

He who reposes any faith in the medical maxim, that

"Prevention is better than cure,"

is the person who is especially interested on the present occasion; for, if there can be said to be such a thing as "an enemy to

physic," it is *ventilation;* if the veterinarian, in particular, can be said to have a counter-agent to his employ, it is one clothed in the unsubstantial form of *ventilation;* if the Hygeian goddess have any influence over the animal world, she must surely visit it in some such form as *ventilation.* Every physiological fact bearing upon the point corroborates what we are now affirming; while experience,

"That jewel purchased at an infinite rate,"

steps in to seal our assertions.

The veterinarian's eyes have now long been opened, and his attention rendered active and lively, towards this important consideration in stable discipline; but many a groom—a member of the "old school"—still reluctantly opens his stable windows, clinging with notorious obstinacy to the fallacious conclusion, that what is agreeable, or "comfortable," to his own perverted feelings, must prove equally so to the horse's; and that while the animal's coat continues smooth and creditable to him, all other considerations are of inferior value. Only read what Mr. Darvill says on the subject:—

"It was formerly the common practice among grooms, in the winter and spring, to regulate the temperature of the stables agreeably to their own feelings; and it was their custom (at least of those I lived under), if the weather was at all cold, to have the long dung laid at the bottom of the stable door, and to have every aperture in the stable closed: this, together with the heat from the breath of the horses, and the fumes arising from the wet dung under them, made the stables what was called by the groom "comfortably warm;" for in those days it was the custom (to use the language of the stable) "to muck out only twice a week." This temperature, I should say, if allowed to speak from my own sensations, far exceeded, in all probability, that of a hot-house, to say nothing of the impurity of such air. Indeed, at the time to which I am now alluding, I could mention many proofs, in a variety of instances, of the inconsistency of a number of grooms in the management of horses; but I have great satisfaction in stating, that the generality of these men now understand the thing much better than they formerly did."——"It is now pretty clearly understood, and, indeed, universally admitted by them, that a constant supply of fresh, pure air, is not only beneficial, but absolutely necessary for the preservation of the health of all horses taken from a state of nature, and placed in an artificial atmosphere; and this necessity becomes more absolute in regard to race-horses."

And why?—because the health of a *racer* is of more consideration—thousands, perhaps, depending upon it—than that of any other horse.

Mr. D. adds, however, the racer being originally sprung from a hot climate, it becomes necessary, during training, "to keep the stable up to a certain temperature;" for which purpose he recommends keeping thermometers in the stables. The degree of heat he fixes at 62 of Fahrenheit.

VENTILATION, we take it, in the modern or medical sense, embraces two considerations; one is, the *regulation* of the *temperature* of the atmosphere of the stable; the other, the *purification* of it. By providing for a free circulation of air, it gives exit to that air which is obnoxious on account of being loaded with heat and impurities, while it admits the entrance of that which is cold, fresh, and pure. Most writers on this subject (and among them we must rank our author) do not seem to us to make a distinction between an atmosphere that is simply heated and one that is impure; and hence the ascription to one of these agents that which is solely attributable to the other. As far as *stables* go, however, there cannot exist a heated atmosphere without impurity; because the same causes which make the air "hot," also render it impure. But in regard to a hot-house this is not the case; for that may be warmed by air passing into the house which is simply impregnated with heat, without containing a single particle of impurity. From which it follows, that, if our racing stables could be heated on such principles, and at the same time kept immaculately clean, and a free circulation kept up, they might be preserved "comfortably warm" without empoisoning the health of the stud.

Our author concludes the chapter "on ventilation" with some remarks on *clothing;* but they are not of that character to stay us in our progress to chapter IV.

ON THE DISTEMPER.

Heterodoxical as the title of this chapter may appear to the members of the "new school," it is perhaps the only intelligible phraseology Mr. Darvill could adopt, considering the description of persons for whom he wrote, viz. gentlemen-sportsmen, trainers, and grooms. Veterinary surgeons, according to the tenets of their professional education, know of no such disease as "distemper" in *horses:* they recognise a disorder so called in dogs only. Mr. Blaine, it is true, has introduced the phrase into his work; but, then, he has named the disorder "Epidemic Catarrhal Fever," which to our minds carries no other meaning than *catarrh* attended with *fever*. Such language, however, would ill befit the *cognoscenti* of Newmarket; and therefore Mr. Darvill has made use (and in our opinion very prudently) of the present (to them familiar) heading, of "distemper." As professional men, however, it behoves us to enquire in what sense we are or ought to view this medically obsolete and indefinite term. Let us turn to Mr. Darvill's account: he says, "the usual symptoms" are

"The horse being taken with a shivering; being off his feed; having a slight cough; the glands of his throat enlarged, his mouth hot, and his legs swollen."

All which indicates nothing more than simple catarrh in conjunction with simple fever; or, in the nosology of Mr. Blaine, "catarrhal fever." Our author, however, appears to view it in a different light; for, he says, in the preceding page,

"I am of opinion that horses sometimes become affected with this distemper, or *something very like it*, as coughs and colds, attended with fever, when they are in high condition."

In the next sentence but one, he adds,

"At this season of the year it is that horses are most liable to be amiss from such complaints (i. e. from 'coughs and colds'), and if not immediately attended to, *such complaints become worse, and terminate in the distemper*, or, what is more difficult of cure, inflammation of the lungs."

Here, Mr. D. appears to make the distemper a disorder intermediate between catarrh and inflammation of the lungs. In fine, he has, himself, left the malady, pathologically, undefined: he has left us to draw our own conclusions, and that we have already done; viz. that "distemper" is nothing more than catarrh combined with fever.

"The circumstance of many horses contracting the disorder at the same time, who have been in the habit of standing together, may have led grooms 'to suppose the disease contagious.' This perhaps is doubtful. That a peculiar state of atmosphere often produces the disease, I believe is not to be questioned."

To veterinary surgeons whose practice lies much among young horses; to those especially who are situated in populous towns, and in the army, it is well known that a disorder of the kind we have been discussing does often prevail during the spring and autumnal seasons, and every now and then does so in some unusual form or degree: it is no uncommon occurrence for the disease to "run through" an entire stable, or through a large establishment of horses, not even passing over the "old ones," who, however, are, under all circumstances, less predisposed to it. Mr. Darvill has had, "within the space of a fortnight, a hundred horses affected, while the remainder of the regiment has continued in a healthy state."

It would be leading us too much astray, as well as taking up too much of the space allotted to us, to agitate, here, the very interesting question of the specific or malignant characters occasionally assumed by the disease: we find we must confine ourselves to the questions before us, and say only a few words on its contagious and epidemic properties. As far as our own observations

have extended, we should feel ourselves justified in saying that the disorder is epidemic, or rather endemic, but not contagious: in fact, we do not believe that there is any *contagion* in the case. We imagine that the circumstance of many horses being all exposed to the same influential agents (whatever they may be) is sufficient to account for the whole being disordered; and that if a fresh horse introduced into the place contracts the disease, it is because he has been exposed to the same exciting causes. Mr. Darvill says,

"It has been a rule with me, whenever the disease has made its appearance among horses in the regiment in which I am serving, *to remove those which have been affected from those which were in health.* I have frequently observed, from horses standing next to each other in bail stables, that those which have been labouring under the disease have not been removed more than a day or two, before those which had stood next to them have become affected."

And a very good *rule* this is of Mr. Darvill's. But he appears to follow it from the apprehension of contagion; a notion which our experience leads us to deprecate. We repeat, however, the rule is a *good* one. It is very proper that such subjects should be separated, not so much on account of others as for their own sakes; and that they should, as Mr. Darvill recommends, "be removed to a well ventilated *loose* box."

Concerning remedies for this "distemper," we believe that it is pretty well assented to by all veterinarians of experience, that it does not afford cases for active or copious evacuation, either by the lancet or medicinally: our author instructs us, "as the disease is so often followed by debility, neither bleeding nor purging should be carried to *too great* extent;" an admonition which our own practice fully corroborates. In short, bleeding seems only advisable at or shortly after the commencement of the malady, and then only under circumstances of inflammatory indications, and full habit and condition. The bowels are to be "relaxed," not "briskly purged:" for which purpose Mr. Darvill prescribes, Barbadoes aloës two drachms, castor oil six ounces; dissolve the aloes in four ounces of warm water, and then add the oil.

In this unchemical mixture, the solution of the aloes and the addition of the castor oil will have the effect of accelerating the operation of the former. The present case, however, is one in which we cannot perceive much advantage from this; and therefore, for our own part, we should prefer exhibiting the aloes (which in our opinion would be aided by the addition of some diaphoretic and diuretic medicine) in the more certain and convenient form of ball.

[To be continued.]

Library of Useful Knowledge.—The Farmer's Series.
THE HORSE. Nos. 1 and 2.

THE object of this Society is most important and laudable. We have, however, doubted whether, in the selection of subjects or their execution, this object has been kept sufficiently in view, or rather, we are persuaded that not one farmer or cottager in a hundred has felt interested in the majority of the subjects, or understood one hundredth part of what he read.

The Society seems at length aware of the path which it should have pursued, and the great and glorious purpose which it should have accomplished, and it thus introduces "The Farmer's Series" of the work:—

"The Farmer's Series will consist of treatises upon subjects most interesting to persons employed in the various branches of agriculture, and to those, generally, who reside in the country. It naturally begins with considering the *Animals* which constitute the most valuable part of the farmer's property;—their origin;—their different breeds;—their structure;—the most economical, and profitable, and humane method of treating them;—and the art of rendering their services more extensive and permanent, and their health and comfort more secure. It is hoped that these volumes will contribute to the amusement, the improvement, and the profit of the farmer and the cottager; and better the condition both of himself and of the animals intrusted to his care. They may afford him a pleasant companion at his winter's fireside,—a useful counsellor when employed in the labours of his station,—and a help to raise his mind to a serious but delightful contemplation of the objects which Providence has spread around us for our admiration and our use.

"Under this first great division will be considered those animals which aid the power of man—the horse, ox, ass, mule, dog;—those which supply food and clothing—horned cattle, sheep, swine, goats, poultry, rabbits, bees;—those which are hurtful—the fox, weazel, rat, mole, insects. In treating the subject of domestic animals, their history, various kinds, structure and habits, feeding and treatment when young, management when worked, and diseases, will be successively considered.

"The *General Principles of Agriculture* will form the other great division of this series; and under this head will be treated whatever relates to the nature of soils and manures—the rotation of crops—farm-buildings and machinery—sheep-farming and dairy-farming, so far as these may not have been considered under the head of sheep and cattle—potatoes and spade husbandry—wood and timber.

"There is a class of subjects which, though not exclusively interesting to country people, belong more to them than to others; brewing, baking, washing and bleaching, land-measuring, road-making, bridge-building, quarrying, lime-burning, &c. These will be discussed in treatises occasionally introduced in the progress of this series.

"At the head of those animals which have been domesticated by, or rendered useful to, man,—whether we regard his noble form, his great sagacity, or the manner in which he is connected with our profit and our pleasure,—stands the HORSE."

It would be premature to speak of the execution of the work from these two Numbers, which are merely introductory. We

will transcribe a paragraph from each, that our readers may be enabled to form some opinion of what they may expect.

Our first extract will relate to the early history of the horse. We take it, not because it is the most interesting portion of the Number, but because it presents a somewhat different view from that adopted by our friend Mr. Karkeek. The author, like Mr. Karkeek, traces the earliest use of the horse to Egypt. He thus proceeds:—

"From Egypt the use of the horse was propagated to other and distant lands; and, probably, the horse himself was first transmitted from Egypt to several countries. The Greeks affirm, that Neptune struck the earth with his trident, and a horse appeared. The truth is, that the Thessalians, the first and most expert of the Grecian horsemen, and likewise the inhabitants of Argos and of Athens, were colonists from Egypt.

"The Bible likewise decides another point, that Arabia, by whose breed of horses those of other countries have been so much improved, was not the native place of the horse. Six hundred years after the time just referred to, Arabia had no horses. Solomon imported spices, gold, and silver from Arabia; but all the horses for his own cavalry and chariots, and those with which he supplied the Phœnician monarchs, he procured from Egypt*.

"In the seventh century after Christ, when Mahomet attacked the Koreish near Mecca, he had but two horses in his whole army; and at the close of his murderous campaign, although he drove off twenty-four thousand camels, and forty thousand sheep, and carried away twenty-four thousand ounces of silver, not one horse appears in the list of plunder.

"There is a curious record of the commerce of different countries at the close of the second century. Among the articles exported from Egypt to Arabia, and particularly as presents to reigning monarchs, were horses.

"In the fourth century two hundred Cappadocian horses were sent by the Roman emperor, as the most acceptable present he could offer a powerful prince of Arabia.

"So late as the seventh century, the Arabs had few horses, and those of little value. These circumstances sufficiently prove that, however superior may be the present breed, it is comparatively lately that the horse was naturalized in Arabia.

"The horses of Arabia itself, and of the south-eastern parts of Europe, are clearly derived from Egypt; but whether they were there bred, or imported from the south-western regions of Asia, or, as is more probable, brought from the interior, or northern coasts of Africa, cannot with certainty be determined."

From the second Number we select his opinion on the "Summering of the Hunter," and with which, we confess, we perfectly accord:—

"The labours and the pleasures of the hunting season being passed, the farmer makes little or no difference in the management of his untrained

"* The historian gives us the price of the horse and the chariot at that time. A horse brought from Egypt, including, probably, the expence of the journey, cost one hundred and fifty shekels of silver, which, at two shillings, three pence, and one half farthing each, amounts to about seventeen pounds two shillings. A chariot cost six hundred shekels, or sixty-eight pounds, eight shillings; a most enormous sum at that early period, but little to him who expended more than thirty-five millions of pounds, in gold alone, to ornament the Temple which he had built."

horse; but the wealthier sportsman is somewhat at a loss what to do with his. It used to be thought, that when the animal had so long contributed, sometimes voluntarily, and sometimes with a little compulsion, to the enjoyment of his owner, he ought, for a few months, to be permitted to seek his own amusement, in his own way; and he was turned out for a summer's run at grass. Fashion, which governs every thing, and now and then most cruelly and absurdly, has exercised her tyranny over this poor quadruped. His field, where he could wander and gambol as he liked, is changed to a loose box; and the liberty in which he so evidently exulted, to an hour's walking exercise daily. He is allowed vetches or grass occasionally, but from his box he stirs not, except for his dull morning's round, until he is taken into training for the next winter's business.

"In this, however, as in most other things, there is a medium. There are few horses who have not materially suffered in their legs and feet, before the close of the hunting season. There is nothing so refreshing to their feet as the damp coolness of the grass into which they are turned in May; and nothing so calculated to remove every enlargement and sprain, as the gentle exercise which the animal voluntarily takes while his legs are exposed to the cooling process of evaporation, which is taking place from the herbage he treads. The experience of ages has shown, that it is superior to all the embrocations and bandages of the most skilful veterinarian. It is the renovating process of nature, where the art of man fails.

"The spring grass is the best physic that can possibly be administered to the horse. To a degree, which no artificial aperient or diuretic can attain, it carries off every humour which may be lurking about the animal; it fines down the roundness of the legs; and, except there be some bony enlargement, restores them almost to their original form and strength. When, however, the summer has thoroughly set in, the grass ceases to be succulent, aperient, or medicinal; the ground is no longer cool and moist, at least during the day; and a host of tormentors, in the shape of flies, are, from sun-rise to sun-set, persecuting the poor animal. Running and stamping to rid himself of his plagues, his feet are battered by the hard ground, and he newly, and perhaps more severely, injures his legs. Kept in a constant state of irritation and fever, he rapidly loses his condition, and sometimes comes up in August little better than a skeleton.

"Let the horse be turned out as soon as possible after the hunting season is over. Let him have the whole of May, and the greater part, or possibly the whole of June; but when the grass fails, and the ground gets hard, and the flies torment, let him be taken up. All the benefits of turning out, and that which a loose box and artificial physic can never give, will have been obtained, without the inconvenience and injury which attend an injudiciously protracted run at grass, and which, arguing against the use of a thing from the abuse of it, have been improperly urged against turning out at all."

TO CORRESPONDENTS.

Mr. ELFORD's favour is received.

Mr. POWELL will probably find that which he requires in our article on "The Veterinary Materia Medica:" if he does not, we shall be happy to communicate with him privately.

Mr. PROCTOR will find an answer to his enquiry in our Numbers for July and August, 1828.

Our Friend from ———, Herefordshire, will recollect that we are pledged not to insert any Communications, on a certain subject, which does not bear the signature of the writer. Our Friend's letter would not disgrace him.

Messrs. BROWN, CARTWRIGHT, CASTLEY, GREGORY, PRITCHARD, and PROCTOR, in our next.

THE

VETERINARIAN.

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ANATOMY OF THE HORSE.

[Continued from page 5.]

III.—MUSCLES OF THE TRUNK.

THE trunk comprises the *neck*, the *thorax*, and the *abdomen*.

a.—MUSCLES OF THE NECK.

1.—HUMERO-CERVICAL REGION.

RHOMBOIDEUS LONGUS.—*Cervico-acromialis.*

Situation.—Supero-lateral part of the neck.

Form.—That of an elongated flattened pyramid, having its apex turned forwards.

Attachment.—Superiorly and anteriorly, to the entire length of the side of the ligamentum colli, reaching as far forward as the second cervical vertebra: posteriorly and inferiorly, to the superior costa and cartilage of the scapula.

Relations.—Internally, with the panniculus; internally, with the ligamentum colli; inferiorly, with the splenius; posteriorly, it passes under the anterior angle of the scapula, uniting its fibres with those of the rhomboideus brevis.

Direction.—Longitudinal: following the curve of the neck.

Structure.—Anterior end tendinous: remainder, fleshy.

Action.—To assist in raising the scapula, and at the same time to draw the bone forwards.

LEVATOR HUMERI.—*Cervico-subscapularis.*

Situation.—Antero-inferior and lateral parts of the neck.

Form.—Flattened, elongated: broadest and thickest at its posterior and inferior parts.

Attachment.—Superiorly and anteriorly, to the tubercle of the occiput, to the mastoid process of the temporal bone, to the transverse process of the atlas, and those of the second, third, and

fourth cervical vertebra laterally, from the ligamentum nuchæ and faschia covering the side of the neck; inferiorly and posteriorly, loosely to the head of the humerus, to the scapular faschia, to the muscles about the point of the shoulder, and ultimately to a ridge upon the body of the humerus, which arises from its greater tubercle.

Relations.—The jugular vein runs along its antero-inferior border, and is covered by it for three-fourths of its length downwards. The subcutaneous branches of the cervical nerves pierce its snbstance and ramify upon its surface. Superiorly and posteriorly, it is opposed to the splenius; inferiorly and anteriorly, to the sterno-maxillaris; on its outer side, to the panniculus; on its inner side, to the rectus capitis anticus major, and to the scalenus. Its antero-inferior margin is thin and expanded, and clips inward, forming a thin fleshy partition between the carotid artery and jugular vein.

Direction.—Longitudinal: sloping with the neck.

Structure.—Anteriorly it is split into two portions, both thin and aponeurotic at their extremities. Its middle part is thick and entirely fleshy, but upon the arm becomes aponeurotic.

Action.—To raise the shoulder and arm, and at the same time draw them forwards: or, these parts being fixed, to turn the neck, and head also, to one side; or, should both act, under such circumstances, the head will be depressed.

Remark.—Professor Girard considers the fleshy expansion between the artery and vein as a distinct muscle, and names it the subscapulo-hyoideus: and so it would seem most natural to regard it.

2.—LATERAL CERVICAL REGION.

SPLENIUS.—*Cervico-mastoideus.*

Situation.—Occupying the whole of the superior and lateral parts of the neck.

Form.—Irregularly quadrangular; the supero-lateral being acute and extended: thick in substance and flattened upon the sides.

Attachment.—Superiorly, to the ligamentum colli, reaching as far forward as the occiput, and as far backward as the fourth or fifth dorsal spine: inferiorly, to the transverse processes of all the cervical vertebræ, and to the mastoid process of the temporal bone.

Relations.—Internally, with the aponeurosis of the panniculus upon the side of the neck, with part of the levator humeri near the head, and with part of the serratus magnus near the

shoulder; along its inferior border runs the levator humeri; and internally, with the complexus major, obliquus capitis inferior, and transversalis colli, which last-mentioned muscle is in places inseparably embodied with it.

Structure.—Superior attachments, tendinous and fleshy; inferior ones, fleshy; excepting that separate flattened tendons fix it to the atlas and head: the intermediate parts are thick and substantial, and fleshy.

Direction.—Oblique; downwards and forwards: the anterior fibres incline more to a longitudinal course.

Action.—Both muscles acting simultaneously, they will firmly erect the head and neck: one acting by itself, will incline these parts to one side.

COMPLEXUS MAJOR.—*Dorso-occipitalis.*

Situation.—Deep-seated: underneath the former muscle.

Form.—An extended triangle: broad posteriorly; narrow anteriorly; flattened; thick in substance in the middle.

Attachments.—Posteriorly, to the spines of the four or five anterior dorsal vertebræ; also to the transverse processes of the same: anteriorly, to the tubercle of the occiput.

Relations.—On the outer side with the splenius; on the inner side, with the ligamentum colli, with the complexus minor, and also with the posterior cervical artery and vein, and the 3d, 4th, and 5th cervical nerves. Its posterior or aponeurotic part is included between the longissimus and spinalis dorsi: its tendon fixed on the occiput is subcutaneous.

Direction.—Longitudinal: the fasciculi coming from the cervical vertebræ inclining upwards and forwards.

Structure.—The dorsal portion is aponeurotic. Its fleshy belly is intersected by narrow slips of tendon; and near the head ends in a flat tendon.

Action.—These muscles will forcibly erect the head, and have the effect of protruding the nose; or, going beyond this, they will conduce to that appearance called the *ewe neck;* in which (latter) operation it co-acts with the splenius.

TRACHELO-MASTOIDEUS.—*Dorso-mastoideus.*

Situation.—Deep-seated: underneath the vertebral attachments of the splenius.

Figure.—Long; cylindroid; bifid.

Attachments.—Posteriorly, to the transverse processes of the two foremost vertebræ of the back; to the oblique processes of the six hindermost cervical: anteriorly, in union with the tendon of the splenius, into the mastoid process of the temporal bone.

Relations.—Externally, with the splenius; internally, with the spinalis colli; posteriorly, it is included between the spinalis and longissimus dorsi; anteriorly, it is inseparably united with the splenius.

Direction.—Along the neck.

Structure.—Tendinous, when it is attached to the back; fleshy from thence to its union with the splenius, where it ends in the tendon common to it and that muscle.

Action.—To erect the head, or to draw it on one side.

SPINALIS COLLI.—*Dorso-spinalis.*

Situation.—Deepest seated upon the side of the neck, lying within the interval between the oblique and spinous processes.

Figure.—A near approach to a parallelogram.

Attachment.—Inferiorly, to the oblique processes of all the cervical vertebræ, except the first and second; also to that of the first dorsal: superiorly, to the spines of all the cervical vertebræ, excepting that of the atlas.

Relations.—On the outer side, with the complexus and trachelo mastoideus; on the inner, with the ligamentum colli and the vertebræ of the neck.

Structure.—More tendinous than fleshy at its attachments; intersected with layers of tendon elsewhere.

Action.—To aid in the erection of the head, but more particularly in the constrained flexion of the neck backwards.

3.—SUPERIOR CERVICO-OCCIPITAL REGION.

COMPLEXUS MINOR.—*Axoido-occipitalis Longus.*

Situation.—Upon the poll.

Figure.—Long, slender, fusiform.

Attachment.—To the spinous process of the vertebra dentata; and at the other end inseparably united with the tendon of the complexus major.

Relations.—Superiorly, with the complexus major; inferiorly, with the next muscle: on the inner side, with the ligamentum colli.

Structure.—The posterior part consists of pale delicate fasciculi: the anterior is tendinous.

Action.—To assist the complexus major in its operation.

RECTUS CAPITIS POSTICUS MAJOR.—*Axoido-occipitalis Brevis.*

Situation.—Underneath, and rather to the outer side of the former muscle.

Attachment.—To the spine of the vertebra dentata; and to a scabrous depression in the occiput, below its tubercle.

Relations.—Superiorly, with the complexus minor; inferiorly, with the next muscle: to the outer side, with the obliquus capitis superior.

Action.—To pull the head backwards; in doing which, it will assist in the protrusion of the nose.

RECTUS CAPITIS POSTICUS MINOR.—*Atloido-occipitalis Parvus.*

Situation.—Underneath the preceding muscle.

Figure.—Quadrilateral.

Attachment.—To the superior part of the atlas, and to the occiput.

Relations.—Superiorly, with the preceding muscle; inferiorly, with the capsular ligament of the occipital joint; on the outer side, with the obliquus superior; on the inner, with the ligamentum colli.

Structure.—Entirely fleshy; consisting of pale delicate fibres.

Action.—To chuck up the head suddenly; and, at the same time, to save the capsular ligament from being pinched between the occiput and atlas.

OBLIQUUS CAPITIS SUPERIOR.—*Atloido-mastoideus.*

Situation.—Upon the side of the poll.

Figure.—Nearly square.

Attachment.—To the superior border of the transverse process of the atlas; and to a ridge extending, laterally, from the tubercle of the occiput to the mastoid process of the temporal bone.

Relations.—Externally, with the tendon of the splenius; internally, with the capsular ligament of the axoido-occipital articulation; and on the inner side with the rectus major and ligamentum colli.

Structure.—Fleshy, with one or two tendinous intersections.

Direction.—Oblique; upwards and forwards.

Action.—Both muscles operating, they will draw back the head, and at the same time elevate it: one alone acting, will turn the head to one side.

OBLIQUUS CAPITIS INFERIOR.—*Axoido-atloideus.*

Situation.—Deep-seated; upon the supero-anterior and lateral parts of the neck.

Figure.—A near approach to a parallelogram.

Attachment.—To the side of the spine of the vertebra dentata; and to the supero-posterior part of the body of the atlas.

Relations.—On the outer side, with the tendon of the splenius; on the inner, with the ligamentum colli and complexus minor: superiorly, with the complexus major; inferiorly, with the capsular ligament of the articulation formed between the first and second vetrebræ.

Structure.—Thick, and almost entirely fleshy.

Action.—When both muscles act, the atlas (and the head along with it) will be elevated. By their alternate action, a sort of rotatory motion is given to the head.

[To be continued.]

Communications and Cases.

Ars veterinaria post medicinam secunda est.—*Vegetius.*

ON SOUNDNESS.

By Mr. J. Castley, *12th Royal Lancers.*

"Who shall decide when doctors disagree?"

To the Editors of "The Veterinarian."

I have read with much interest your account of the three discussions, or debates, which took place at the Veterinary Medical Society, upon Mr. Percivall's paper relative to the examination of horses for soundness:—and although I have ever looked upon it as extremely difficult, if not quite impossible, to lay down any simple general rule, so perfect as to include every case we may have to deal with, yet I must confess I was not prepared to expect that there would be quite so much discrepancy of opinion upon this important subject as seems to have been exhibited on these occasions. And I quite agree with you that 'it is a subject on which, of all others, it seems most desirable for us to come to some mutual understanding and unanimous conclusion:' for how can it be expected that lawyers should argue horse causes rightly, or, what is of much more importance, that juries should be able, at all times, to come to a just decision in matter of this kind, when we ourselves cannot agree as to what ought or what ought not to be considered soundness?

It appears to me that in these discussions there was too much attempted to be done at once, and much extraneous matter was suffered to creep in. Perhaps a better mode of proceeding would be, first, to propose, and endeavour to establish, a broad and simple ruling principle which may serve as a basis upon which to conduct the examination generally, and then discuss separately all those points that seem to stand out, or which are said not to come within the broad line we have drawn. Now, as a general guiding and determining principle, I know of none better than that, in fact, sought to be established in Mr. Percivall's two leading propositions, which, however, I would simplify into one, and say, 'that alterations of structure, attended with interruption or impairment of function, constitute unsoundness.' This point once agreed upon, we may then proceed to examine all those cases which appear to deviate from the general rule; and in doing this, if we were to adopt, as a clause or collateral rule, an observation which fell from Mr. Field in the first night's debate, we should be assisted, I think, very much in our conclusions. 'The rule which he would adopt is, that all horses with alteration of structure which does not interfere with the function of the part, and which experience tells us is not likely to interfere with it for a definite time, are sound.' And if we admit this, may we not add the counterpart,—that, in those cases where there is alteration of structure which does not at present interfere with the function of the part, but which experience tells us is likely to interfere with it at no very distant period, we should pronounce a verdict of unsound? Splents may be said, I think, to come fairly within the meaning of the first of these heads; whilst spavin may perhaps be more properly ranged under the latter. For the rest, as to the question, whether a horse having one disease upon him at the time of sale, is returnable for another that may supervene, I would resign this point entirely to the lawyers, as being more properly within their province than ours. They shall be welcome, as far as my voice goes, to all the benefit of it, and I would give them the starred decanter into the bargain; and they may also have the question of 'how long after the sale of a horse he may be returnable?' These are questions, I say, if not purely of law, yet belonging more to the gentlemen of the long robe than to us; and we have debatable ground enough of our own.

As for natural defects and deformities, these, I think, are also matters we had better not meddle with. I never yet heard of any man having returned a horse because he had one jaw shorter than the other, although I have seen several instances of this deformity. That which has never yet been complained of as a grievance, can scarcely be worth legislating for. And how, pray, would a man look in a court of law, were he to bring an action for damages be-

cause he had bought a horse with ‘ a tail that would not hold a crupper, or a pastern so turned out as to render cutting an almost necessary consequence?’ The lawyers would tell him, that what was plain and palpable at the time of sale to every one, is no deception, and can have no remedy in law. We may consider it our duty to point out these things to our employer as very objectionable in a horse; but we shall do wrong, I think, to admit them into the catalogue of unsoundnesses.

You have called upon the profession to express their ideas on this subject; and although I am at a great distance, and have comparatively but little interest in the question, I can no longer remain ‘ A Looker-on.’ I feel I have stepped upon disputed ground; but in doing this I would remind my brethren, that it is ground upon which it is most desirable we should all shake hands; for here, indeed, union would be strength. I have endeavoured to simplify the question at issue amongst us, believing that to be the only chance there is of arriving at some definite conclusion. Another effort ought to be made, I think, to establish a broad sound principle as a general rule; and in endeavouring to do this let me repeat, that all extraneous matter should be excluded from the discussion, and it should be kept to one point only. In the mean time, if Mr. Field would favour us with an account of the examination for soundness as practised at their great establishment in Oxford Street, detailing each step of the operation, and shewing, as he went on through each part, what they consider unsoundness, or what they consider not unsoundness, he would, I think, confer an obligation on the profession at large; and, for my own part, although I have not the pleasure of being individually known to him, I should feel highly gratified: it might also assist us in coming to a just conclusion on the great question we have in hand; for whatever we find to be right in practice, cannot be theoretically wrong. Until this knotty point be somewhat settled, I shall avoid giving a certificate couched in the positive terms I have heretofore been accustomed to do. Instead of saying, ‘ I certify that (such a horse) has a spavin,’ and consequently is unsound, I shall in future write, ‘ I am of opinion that (such a horse) is unsound, having a spavin,’ &c.

Seeing that, in the present state of our knowledge, one is liable to be contradicted at every step, and always keeping in mind the excellent piece of advice that our friend Gay has given us in our infancy, viz.—

When next you talk of what you view,
Think others see as well as you,

I am, Sir, &c. &c.

JAMES CASTLEY, V. S.

FRACTURE OF THE OS CALCIS.

By Mr. W. A. Cartwright, *Whitchurch.*

On the 12th June, 1829, Mr. Stannier, of Ferrybank, sent for me to see a cart colt, two months old, that had hurt his hock a few days before, by leaping at some rails, and getting his leg between them, his body hanging over on the other side. On examination, I found that there was a simple horizontal fracture of the whole of the os calcis about its middle.

Treatment.—A piece of wood was made in the form of a splint, so as to reach from the middle of the tibia to that of the metatarsal bone, and which was applied to the front of the leg, to keep the hock from having the usual motion, and to relax the muscles inserted into the os calcis: underneath this splint a charge was applied about the part, and well padded with tow, to form a level surface for the splint to rest upon; the whole was bound together with proper adhesive bandages, and he was ordered to be kept quiet in the stable, bnt not to be slung. In about two months after the hock was fired, and is now perfectly well, there only being a little enlargement where union took place.

FRACTURE OF THE HUMERUS IN A COW.

By the same.

A five-year-old cow, belonging to Mr. Roberts, of the Brick Wall, broke her near humerus on the 21st May, 1829, about its middle. The integument was not injured. I bound it up with a charge and bandages as well as I could, but did not sling her, and she fed very well all the time the bone was uniting, which was between two and three months. When united, the humerus was not quite straight, being bent a little towards her body where the fracture had taken place. Within this last month she was taken up to be fed, and is now nearly fat.

ON CROTON SEED AND ITS FARINA.

By the same.

In Mr. Percivall's excellent "Lectures on the Veterinary Art," he has introduced Mr. Field's experience on the purgative effect of the *farina* of the croton seed, and says that five grains of it are equal to a drachm of Barbadoes aloes. I would

wish to caution my brother practitioners against the use of the farina ready prepared for them by the druggist. The oil is probably extracted, and the croton adulterated into the bargain. I purchased a pound of the farina from a London wholesale druggist, and I have given from thirty grains to three drachms of it without producing any purgative effect. I then powdered the seeds in a mortar when I wanted them, and they have never disappointed me like the farina. I have given them in the proportion of *three* grains instead of a drachm of aloes. On my first using it, I gave it in the proportion of five grains to a drachm of aloes, but found it too strong generally. If too large a quantity be ground at a time, it becomes mouldy by keeping, and probably injured. In the fatal case of superpurgation, mentioned in the VETERINARIAN, vol. i, page 233, it was not produced by the *farina*, but by the croton *seed*.

In two cases where I had given croton seeds, the tongue and inside the mouth were abraded, and which I attribute to the stimulating quality of the medicine, the balls having been broken in the mouth, and not immediately swallowed.

A CASE OF NEUROTOMY.

By Mr. S. V. GREGORY, *Warminster.*

AT the latter end of August 1827, I was requested by a gentleman to see a horse of his, seven years old, that had suddenly fallen lame in hunting eighteen months before. He would occasionally be much lamer than at other times, but never had been free from the first attack, and was observed frequently to rest his near fore foot in the stable. On examining the limb, I could find nothing to cause lameness, and he had as well shaped, circular, strong foot, as I think I had ever seen. As he had been useless for full eighteen months, and had been repeatedly blistered from the foot to the knee, without any benefit, the gentleman gave me full liberty to do as I pleased with him. Accordingly after keeping the fetlock bandaged a few days, and the bandage wet with a solution of salt and cold water, and giving him a mild dose of physic, I proceeded to operate, on the 3d of September, by excising about an inch of the nerve on each side of the leg, two inches above the fetlock joint, and just below the division of the nerve. The horse continued lame for three or four days after the operation; but from that time to the present has neither been observed to point his foot, nor go otherwise than sound. He was regularly worked six weeks after the operation, and hunted all last

winter. I have in several instances operated in the same place, without any ill consequence.

Query:—In reality, are the ill consequences to be dreaded as some veterinarians have imagined, by operating above the part where the nerves divide at the fetlock joint?

TUMOUR AND STRICTURE IN THE SMALL INTESTINES.

By the same.

During the summer of 1827, I attended a horse that was continually attacked with the usual symptoms of spasmodic colic, except that the pulse varied from 70 to 80, and was remarkably thready. At first I bled freely, and administered stimulants, but soon found that aperients were much better; and I gave six drachms of aloes (Barb.) in solution. He was a half bred horse, twelve years old, fifteen hands high, and was attacked every two or three days, or as soon as the laxatives employed had ceased to operate, therefore I found it necessary constantly to keep the bowels in a lax state. I had from the first suspected that there must be some obstruction in the alimentary canal.

On the 8th of September was the last time he had any attack at home, and his general health had seemed much better than for some time up to the 16th, when his proprietor applied to me, to know if I thought he might use him: I told him that he might, if he would drive him gently. On that day he drove him very slowly about fifteen miles, aud fed him as usual with a bran mash and his feed of oats in it. The ostler gave him a little hay, which produced another attack that lasted two hours; and the next morning, as he was returning home, after coming the first four miles very well, he had a second attack, under which he died at a little inn ten miles from my residence.

At the gentleman's request, I went over, and examined him; and on opening the abdomen, the cæcum and colon presented a perfectly healthy appearance, as well as the rectum, and in no part was the peritoneum inflamed except at the stricture and the covering the tumour, of which I shall presently speak. At about six inches from the pyloric orifice of the stomach, there was a stricture in the duodenum, and there were six others in the course of the small intestines. About the middle of the jejunum, was a tumour ten inches in circumference. On cutting through it there was the appearance of a schirrous gland, and the villous coat of the intestine running through it, in a highly gangrenous

state, and hanging in flakes: for twelve inches each way the intestine was very much inflamed, as well as at the strictured parts. The passage through the tumour would not more than admit my fore finger, and that with difficulty. This perfectly accounted for the animal being uneasy if the bowels were not relaxed. There was a hard mass of food collected for twelve inches in the intestine anterior to the tumour.

I have been once called to a cart horse that died under similar circumstances. I did not see him until an hour before he died; and, on post mortem examination, I found a similar tumour, though not so large, about eighteen inches from the entrance of the cæcum, in the ileum. I have preserved the tumour first mentioned in a solution of corrosive sublimate, and intend, at the first opportunity, to present it to the Museum now collecting by the Veterinary Medical Society. This is the second case of the kind that I have met with; and I much wonder, as does Mr. Percivall (in a late number of the VETERINARIAN), that veterinary authors and practitioners class all diseases where the animal expresses abdominal pain under "Enteritis," or the convenient and unmeaning terms "fret," or "gripes." I am convinced that cases like the above frequently occur, and are never attended to, because the horse has died from the usual symptoms of spasmodic colic.

I beg leave to mention the following mixture, which I have found singularly efficacious, with the usual remedies of bleeding, &c. in comon colic. I do this because I have had several mishaps in giving the common remedy, turpentine, such as blistering the mouth and fauces, violent purging, &c.; and, in one case, after giving a horse, two years ago, six ounces mixed with a pint of oil, although it relieved his pain it produced inflammation of the fauces, and a cough that has continued to the present time. Powdered opium ten drachms, horseradish two ounces, powdered capsicum one ounce, spirit of nitrous æther one pound; macerate fourteen days. Take one ounce of the tincture, and two ounces of spirit of nitrous æther; and repeat it every two hours, if necessary, in warm gruel.

CASE OF DIVISION OF THE EXTENSOR TENDON OF THE FOOT.

By Mr. W. C. SPOONER, *of Blandford.*

ON the 16th of August, 1829, I was sent for by a respectable farmer to attend a young cart horse, that had met with an ac-

cident about three or four days previous. I found a very large wound situated between the knee and elbow joint, about six inches above the former, and towards the anterior and external part of the fore arm. It was occasioned by the crook of the trace getting entangled in the horse's leg, whilst the carter was letting his team go out of the road to a pond, to drink; and as there were several horses before this one, every step they made lacerated the arm the more. The wound was nearly as large as my hand, and the extensor pedis was completely divided, just below the part where it becomes tendinous. About two or three inches of the lower portion of tendon were detached from the neighbouring parts, and hanging from the inferior border of the wound; and the extensive granulatious that had formed must have caused or assisted its protrusion, as it was not observed until the day before I was sent for. The horse appeared to be in pain, had great difficulty in moving, and dragged his toe along the ground at every step. I despaired of ever getting the divided tendon to unite; but, however, I was willing to try what Nature would do. Accordingly, I drew the ends of the tendon as near together as possible, and having connected them by sutures, supported the lower detached portion with bandages: the wound was cleansed, and the granulations touched with a mild escharotic. The next day, finding that the ends of the divided tendon had still further receded from each other, the sutures on the stretch, and, in short, no prospect of a reunion taking place, I resolved to excise the lower portion, trusting the functions of the limb to be performed by the extensor suffraginis. I therefore amputated the protruded portion of tendon, and, having stopped the hemorrhage with the cautery, sprinkled the wound with a caustic powder, the fungus flesh having risen above the level of the skin, so much so, that no trace remained of the place the tendon formerly occupied. Cathartic and diuretic medicines were occasionally administered internally; but the only topical treatment afterwards employed was an astringent and an escharotic powder, scattered over, as the wound required. The horse moved better as the wound diminished; and in abont six weeks after the accident, the parts being completely cicatrized, he resumed his work, with a slight scar marking the seat of injury, but without any lameness or impediment in his action.

Remarks.—The foregoing case affords an instance of the amazing powers of Nature, in repairing the effects of accidents; for here a comparatively small muscle,—the extensor suffraginis, must have increased sufficiently to perform the duty of a much larger one, or otherwise the tendon of the extensor pedis must have become united by granulations to the surrounding muscles;

for all direct communication between the wounded sinew and its parent muscle was completely cut off.

TWO CASES OF NEUROTOMY.

By the same.

Case I.—An aged black mare has been lame for several years in the off-fore leg, which bears the marks, without having received the benefit, of the firing-irons. She has been taken out of the coach for some years, and has since been working on the farm; but her lameness has increased so much of late, that she could not even continue this work. On examining, I found the fetlock joint hot and tender; an exostosis had formed round it, and also round and above the hoof. In May last, the mare being thrown, I excised about an inch of the outer metacarpal nerve, and three-fourths of an inch of the inner pastern nerve. I was induced to make this distinction from observing that the heat and exostosis were but very slight on the inner part of the fetlock joint; and I wished to preserve, if possible, a slight portion of feeling, to guard against accidents. The mare, on rising, appeared to walk and trot without lameness, and, as soon as the wounds admitted, resumed her work. In five or six weeks afterwards, having been rather hard worked on the road, I was informed that she was as lame as ever. I found the inner side of the fetlock joint hot and painful, though, on the *outer* side, the inflammation was scarcely perceptible.

I determined to cut off all sensation whatever; and, as soon as the inflammation was sufficiently reduced by cooling treatment, I operated on the *inner* side *above* the fetlock. The amendment was immediately evinced; the animal walked and trotted free from lameness, and soon after went to work, where she now continues. In August last, the mare was worked post on a rough road, and in consequence became lame in the *near* forefoot; this lameness, however, was removed by antiphlogistic treatment in a fortnight, and the *neurotomized* limb stood sound throughout.

Remarks.—Is not pain frequently a *cause*, as well as an effect, of inflammation? and does not the operation of *neurotomy* lessen it, by removing the irritation?—what think you, Messrs. Editors? In this case, the lameness appeared to have been occasioned by the friction of the sensible parts against the exostosis; and the first operation removed the pain, and prevented, in great measure, inflammatory symptoms taking place on the *outer* side of the fetlock; and the excision of the *inner metacarpal* nerve not only cured the lameness, but prevented any inflammation again

recurring, although exposed to causes which lamed the other foot.

Case II.—A chesnut horse, with very high heels and rather contracted feet, was lame in both fore feet, which lameness had been gradually increasing for some time past. This horse had acquired, in a very marked degree, that peculiar short gait characteristic of groggy horses, and which, perhaps, cannot be better expressed than by a remark of the coachman who drove him, who, on being asked how the horse went, replied, "Why, he went like *an old soldier* with a *pair of wooden legs*." He had been blistered, and turned out to grass for some time, without any amendment.

In the latter end of July last, the pastern nerves of both legs were excised, and the horse went better immediately after the operation, but did not step out with the wished-for freedom: he had been too long in the habit of suspending his weight by the *extensors*, to call his *flexor* tendons into sudden action; however, he went to work in about three weeks, and still continues there, working occasionally at post on the road. The amendment, which did appear very great at first, has gradually increased, and the horse now steps out with a freedom very different from his former shuffling gait.

ON THE DISTEMPER OF DOGS.

By W. Youatt.

[Read at the Veterinary Medical Society, Jan. 14, 1830.]

The *Distemper* of dogs is a singular name by which to distinguish the malady that comes under our consideration to-night. When it was first observed on the continent, the rapidity with which it spread, the strange protean appearances which it assumed, and its too frequent fatal termination, surprised and puzzled the veterinarians. They could not tell what to make of it; and they called it "La Maladie des Chiens," the disease or distemper of dogs.

It is, comparatively, a new disease. English writers, sixty or seventy years ago, make no mention of it. It was imported from France, although some French authors affirm that it is of British origin; and, having once gained footing among us, it has established itself in our country to the vexation and loss of the sportsman, and the annoyance and disgrace of the veterinary surgeon. However keepers, or even men of education, may boast of their

specifics, it is a sadly fatal disease, and destroys full one-third of the canine race.

Dogs of all ages are subject to its attack. Many, nine and ten years old, have died of pure distemper; and I have seen puppies of only three weeks fall victims to it: but it oftenest appears between the sixth and twelfth month of the animal's life. If it occurs at an early period, it, in the great majority of cases, proves fatal; and if the dog be more than four years old, it generally goes hard with him. It is undeniably and highly contagious, yet it is frequently generated. In this it bears an analogy to mange, farcy, and glanders in the horse. One attack of the disease, and even a severe one, is no absolute security against its return; although the dog that has once laboured under distemper possesses a certain degree of immunity; or, if he be attacked a second time, the malady assumes a milder type. I have known it, however, occur three times in the same animal, and at last destroy him.

Violent catarrh will often terminate in distemper; and low and insufficient feeding will produce it. It frequently follows bad mange, and especially if mercury has been used in the cure of the eruption. When I see a puppy with mange, and that peculiar disease in which the skin becomes corrugated, and, more especially if it be a spaniel, and pot-bellied or ricketty, I generally say that I can cure the mange, but that the dog will soon afterwards die of distemper: and so it happens in three cases out of four. Whatever debilitates the constitution predisposes for the reception or the generation of distemper. It, however, frequently occurs without any apparent exciting cause.

That it is highly contagious cannot admit of doubt. A healthy dog can seldom for many days be kept with another that labours under distemper without becoming affected; and I have seen it communicated by the slightest momentary contact. Yet there is a great deal of caprice about this; and I have more than once kept a dog in the foul ward of my hospital for several successive weeks, and he has not become infected. Inoculation with the matter which flows from the nose, either limpid or purulent, and in an early or advanced stage of the distemper, will, with few exceptions, produce the disease; yet I have failed in attempting to communicate it even by this method. Inoculation used to be recommended as producing a milder and less fatal disease: so far as my experience goes, the contrary has been the result.

While it is thus generated and contagious, distemper is likewise epidemic. It occurs more frequently in the spring and autumn than in the winter, and, without comparison, more frequently than in the summer. If one or two dogs in a certain district

be affected, we may be perfectly assured that it will soon extensively prevail there; and, where the disease could not possibly be communicated by contagion. Sometimes it is, properly speaking, epidemic. It rages all over the country. At other times it is endemic. It is confined to some particular district.

Not only is the disease epidemic, or endemic, but the form which it assumes is so. In one season, almost every dog with distemper has violent fits; at another time, in the majority of cases, there will be considerable chest affection, running on to pneumonia; a few months afterwards, a great proportion of them will be worn down by diarrhœa, which no medicine will arrest; and, presently, it will be scarcely distinguishable from mild catarrh.

It varies much with different breeds. The shepherd's dog, generally speaking, cares little about it: he is scarcely ill a day. The cur is not often seriously affected. The terrier has it more severely, especially the white terrier. The hound comes next in the order of severity; and next, the setter. With the small spaniel it is more dangerous; more so with the pointer, especially if he have the disease early; still more with the greyhound; next with the pug; and it is most fatal of all with the Newfoundland. Should a foreign dog be affected, he almost certainly dies. The greater part of the northern dogs brought by Captain Parry did not survive a twelvemonth; and the delicate Italian greyhound has little chance.

Not only does it thus differ in different species of dogs, but in differents breeds of the same species. I have known several gentlemen who have laboured in vain for many a year to rear particular and valuable breeds of pointers and greyhounds. The distemper would uniformly carry off five out of six. Other sportsmen laugh at the supposed danger of distemper, and declare that they seldom lose a dog. This hereditary predisposition to certain diseases cannot be denied, and is not sufficiently attended to. When a peculiar fatality has attended a certain breed, I have advised the owner to cross it from the kennel of one of these gentlemen who boasted of his success in the treatment of distemper. This has generally succeeded far beyond expectation.

It is time, however, to proceed to the symptoms of this disease; but here I feel very great difficulty, for it is, what I have called it, a truly protean disease; and it is impossible to fix on any symptom which shall invariably characterise it.

I would take as an early and frequent symptom a very gradual loss of appetite, spirits, and condition. The eyes will appear weak and watery; and there will be a very slight limpid discharge from the nose. In the morning there will probably be a little indurated mucus at the inner corner of the eye. This, perhaps,

will continue two or three weeks without any serious or scarcely recognizable illness. Then a peculiar husking will be heard, altogether different from the sonorous cough of catarrh, or the wheezing of asthma. It will be an apparent attempt to get something from the fauces or throat. By degrees the discharge from the eyes and nose, and particularly the former, will increase. More mucus will collect in the corners of the eyes, and the eye will sometimes be closed in the morning. The conjunctiva, particularly that portion which covers the sclerotica, will be considerably injected; but it will not be the usual intense red of inflammation. The vessels will be large and turgid rather than numerous, and of a darkish hue.

Occasionally, however, the inflammation of the conjunctiva is exceedingly intense, and the membrane is vividly red, and the eye impatient of light. An opacity spreads over the cornea, and this is quickly succeeded by ulceration. The first spot of ulceration is generally found precisely in the centre of the cornea, and is perfectly circular: this will distinguish it from a scratch or other injury. The ulcer widens and deepens, and sometimes eats through the cornea, and the aqueous humour escapes. Fungous granulations spring from it, and protrude through the lids; and the animal evidently suffers extreme torture. A remarkable peculiarity attends this affection of the eye. However violent may be the inflammation, and whatever disorganization it may produce, if we can cure the distemper, the granulations will disappear, the ulcer will heal, the opacity will clear away, and the eye will not eventually suffer in the slightest degree. One-fourth part of the mischief in other cases, and unconnected with distemper, would inevitably terminate in blindness; but permanent blindness is rarely or never the consequence of distemper.

It may not be improper here to glance at the different appearance of the eye in rabies. In the early stage of rabies there is an unnatural and often terrific brightness of the eye. The cornea in distemper is from the first rather clouded. In rabies there is frequent strabismus, with the axes distorted outward. The apparent squinting of the eye in distemper is caused by the protrusion, probably unequal protrusion, of the membrana nictitans over a portion of the eye at the inner canthus, to protect it from the light Finally, in rabies there is not the white cloudiness which I have described, and the occasional ulceration with very little cloudiness, and the ulceration confined to the cornea; but a dense, green opacity comes on, speedily followed by disorganization and ulceration of every part of the eye.

The dog will now be evidently feverish, and he will shiver and creep to the fire. He will more evidently and rapidly lose flesh.

The huskiness will be more frequent and troublesome, and the discharge from the nose will have greater consistence. It will be often and violently sneezed out, and will become more or less purulent. It will stick about the nostrils and plug them up, and thus afford a considerable mechanical obstruction to the breathing. The young practitioner must beware that this difficulty of breathing, which may be removed by merely sponging the nostrils, be not mistaken for the laborious respiration of pneumonia.

The progress of the disease is now uncertain. Sometimes fits come on, speedily following the intense inflammation of the eye; or, the inflammation of the nasal cavity appears to be communicated, by proximity, to the membranes of the brain. One fit is a serious thing. If it be followed by a second, within a day or two, the chances of cure are diminished; and if they rapidly succeed each other, the dog is, ninety-nine times out of a hundred, lost.

These fits seldom appear without warning; and if their approach be carefully watched, they may possibly be prevented. However indisposed to eat the dog may have previously been, the appetite returns when the fits are at hand, and the animal becomes absolutely voracious. Nature seems to be providing for the strange expenditure of animal power which epilepsy will soon occasion. The mucus almost entirely disappears from the eyes, although the discharge from the nose may continue unabated; and for an hour or more before the fit there will be a champing of the lower jaw, frothing at the mouth, and discharge of saliva. The champing of the lower jaw will be seen at least twelve hours before the first fit, and will a little while precede every other. There will also be twitchings of some part of the frame, and usually of the mouth, cheek, or eyelid. It is of some consequence to attend to this, as enabling us to distinguish between the fits of distemper and those of teething, worms, or unusual excitement. The latter come on suddenly. The dog is apparently well, and racing about full of spirits; and without a moment's warning he falls into violent convulsions.

We may here, likewise, be enabled to distinguish between rabies and distemper. When a person unacquainted with dogs sees one of these animals struggling in a fit, or running along unconscious of every surrounding object, or snapping at every thing in his way, whether it be a human being or a stone, he raises the cry of "mad dog," and the poor brute is immediately sacrificed. The very existence of a fit is proof positive that the dog is not mad. No epilepsy accompanies rabies in any stage of that disease.

The inflammation of the membrane of the nose and fauces is sometimes propagated along the mucous membrane of the wind-

pipe, and the dog exhibits unequivocal proofs of chest affection, or decided pneumonia.

At other times the bowels become affected, and a violent purging comes on. The fæces vary from white with a slight tinge of grey, to a dark slate or olive colour. By degrees mucus begins to mingle with the fæcal discharge, and then streaks of blood: the fæcal matter lessens, and the whole seems to consist of mingled mucus and blood; and, from first to last, the stools are insufferably offensive. When the mingled blood and mucus appear, so much inflammation exists in the intestinal canal that the case is almost hopeless.

The discharge from the nose is now decidedly purulent. While it is white, and without smell, and the dog is not too much emaciated, the termination may be favourable; but when it becomes of a darker colour, and mingled with blood, and stinking, the æthmoid or turbinated bones are becoming carious, and death supervenes. This will particularly be the case if the mouth and lips swell, and ulcers begin to appear on them, and the gums are ulcerated, and a sanious and highly offensive discharge proceeds from the mouth. A singular, half-fœtid, deathy smell arising from the dog generally, is the almost invariable precursor of death.

The duration of the disease is altogether uncertain: it sometimes runs its course in five or six days; and it may linger on two or three months. In some cases the emaciation is rapid and extreme: danger is then to be apprehended. When the muscles of the loins are much attenuated, or almost wasted, there is little hope; and although other symptoms may remit, and the dog may be apparently recovering, yet if he continue to lose flesh, we may be perfectly assured that he will not live. On the contrary, let the discharge from the nose be copious, and the purging as violent as ever, and every other symptom threatening, yet if the animal gain flesh, we may confidently predict its recovery.

When the dog is much reduced in strength and flesh, a spasmodic affection or twitching of the muscles will sometimes be observed. It is usually confined at first to one limb; but the most decisive treatment is required, or these spasms will spread from limb to limb, until the animal is unable to stand; and while he lies, every limb will be in motion, travelling at the rate of twenty miles an hour, until the animal is worn out, and dies of absolute exhaustion. When these spasms become universal and violent they are accompanied by constant and dreadful moans and cries.

After the disease has apparently been cured, and even although the attack may have been slight, these twitchings (*chorea*) will

occasionally appear, confined to the lower jaw, or to one fore-leg, or to both of them. The life of the animal is not in danger, nor is there fear that the disease will return; but this nervous affection is with difficulty removed, and the dog is generally useless for every sporting purpose.

In the greyhound the disease assumes a peculiar form. There is no discharge from the eyes or nose; no cough, no fever, no convulsion, no purging, but he wastes more or less rapidly away; his eyes have a peculiar sunken appearance; he lies listless all day long; he obstinately refuses his food, and his belly is strangely tucked up. This continues three weeks or a month, until he is a walking skeleton; then twitchings appear,—usually in one of his fore legs; they rapidly spread; the whole frame becomes convulsed; and death closes the scene.

In the pointer and the hound, and particularly when there is little discharge from the eyes or nose, an intense yellowness suddenly appears all over the dog; he falls away more in twenty-four hours than would be thought possible; his bowels are obstinately constipated; he will neither eat nor move; and in two or three days he is dead.

In the pointer, hound, and greyhound, there sometimes appears on the whole of the chest and belly a pustular eruption, which peels off in large scales. The result is usually unfavourable. A more general eruption, however, either wearing the usual form of mange, or accompanied by minute pustules, may be regarded as a favourable symptom. The disease is leaving the vital parts, and expending its last energy on the integument. The post mortem appearances are exceedingly unsatisfactory: they correspond not with the original character of the disease, but with its strangely varying symptoms. If the dog has died in fits, we have inflammation of the brain or its membranes, and particularly at the base of the brain, with considerable effusion of a serous or bloody fluid. If the prevailing symptoms have led our attention to the lungs, we find inflammation of the bronchial passages, or, in a few instances, inflammation of the substance of the lungs, or the submucous tissue of the cells. We rarely have inflammation of the pulmonary pleura; and never to any extent of the intercorsal pleura. In a few lingering cases, tubercles and vomicæ of the lungs have been found.

If the bowels have been chiefly attacked, we have intense inflammation of the mucous membrane, and, generally speaking, the small intestines are almost filled with worms. If the dog has gradually wasted away, we have contraction of the whole canal, including even the stomach, and sometimes considerable enlargement of the mesenteric glands.

The membrane of the nose will always exhibit marks of inflammation, and particularly in the frontal sinuses and the æthmoidal cells; and I have fancied that the portion of membrane on the septum, or cartilaginous division of the nostrils, between the frontal sinuses and æthmoidal cells, has been studded with small miliary tubercles. In advanced stages of the disease, attended with much defluxion from the nose, the cells of the æthmoidal bone and the frontal sinuses are filled with pus.

Ulceration is sometimes found on the membrane of the nose, oftenest on the spot to which I have referred—occasionally confined to that; now and then spreading over the whole of the septum, and even eroding and eating through it; generally equal on both sides of the septum—in a few instances extending into the fauces; seldom found in the larynx, and occasionally seen in the bronchial passages. The other viscera rarely present any remarkable morbid appearance.

The distemper is clearly a disease of the mucous membranes, usually commencing in the membrane of the nose, and resembling nasal catarrh. In the early stage it is *coryza*, or nasal catarrh; but the affection rapidly extends, and seems to attack the mucous membranes generally—determined to some particular one, either by atmospheric influence or accidental cause, or constitutional predisposition. The fits arise from general disturbance of the system, or from the proximity of the brain to the early seat of inflammation.

My account of the treatment of distemper will, I fear, be unsatisfactory. One thing, however, is clear; that for a disease which assumes such a variety of forms there can be no specific; yet there is not a keeper, and there are few gentlemen, who are not in possession of some supposed infallible nostrum. Nothing can be more absurd. A disease attacking so many organs, and presenting so many and such different symptoms, must require a mode of treatment varying with the organ attacked and the prevailing symptom.

The faith in these boasted specifics is founded on two circumstances—atmospheric influence and peculiarity of breed. There are some seasons when we can scarcely save a dog; there are others when we must almost wilfully destroy him in order to lose him: and there are some breeds in which, generation after generation, five out of six die of distemper, while there are others in which, generation after generation, not one out of sixteen dies. When the season is favourable, and the animal, by hereditary influence, is not disposed to assume the virulent type of the disease, these two important agents are overlooked, and the immunity from fatal result is attributed to medicine. Many gentlemen have told me that they could cure distemper better than I could; that

a twelvemonth has passed and they have not lost a single dog; and I, for a while, have lost them; but in a few years they have applied to me in great distress, complaining that the distemper was sweeping off the very pride of their kennel, and that they could not stay its ravages. We may be assured that there is and can be no specific in a disease like distemper. The circumstance most connected with our success will be the recollection that it is a disease of the mucous surfaces, and that we must not carry the depleting and lowering system too far. Keeping this in view, we must accommodate ourselves to the symptoms as they arise.

The natural medicine of the dog seems to be an emetic. The act of vomiting is very easily excited in him, and, feeling the slightest ailment, he flies to the dog grass, unloads his stomach, and is, at once, well. In distemper, whatever be the form which it assumes, an emetic is the first thing to be given. Common salt will do when nothing else is at hand; but the best emetic, and particularly in distemper, consists of equal parts of calomel and emetic tartar: from half a grain to a grain and a half of each will constitute the dose. This will act first as an emetic, and afterwards as a gentle purgative. Then, if the cough be urgent, and there be heaving at the flanks, and the nose be hot, a moderate quantity of blood may be taken;—from three to twelve ounces; and this, if there has been previous constipation, may be followed by a dose of sulphate of magnesia, from two to six drachms. In slight cases this will often be sufficient to effect a cure.

If the dog still droops, and particularly if there be much huskiness, begin to give antimonial or James's powder, nitre, and digitalis, in the proportions of from half to one grain of digitalis, from two to five grains of the James's powder, and from a scruple to a drachm of nitre, twice or thrice in a day; except that on the third or fourth day, if the huskiness be not quite removed, the emetic should be repeated.

In these affections of the mucous membranes it is absolutely necessary to avoid or to get rid of every source of irritation, and there will generally be found one, and a very considerable one in young dogs, worms*. If we can speedily get rid of them, distemper will often rapidly disappear; but if they are suffered to remain, diarrhœa or fits may supervene: therefore some worm medicine should be administered.

I have said that vomiting is very easily excited in the dog: and on that account we are precluded from the use of a great

* The intestines of a puppy which had died of distemper were here examined, and found to be almost filled with worms.

many medicines in our treatment of him. Calomel, aloes, jalap, scammony, and gamboge, will generally produce sickness. We are, therefore, driven to some mechanical vermifuge; and a very effectual one, and what will rarely fail of expelling even the tape-worm, is tin-filings or powdered glass. From half a drachm to a drachm of either may be advantageously given twice in the day. I generally add them to the digitalis, James's powder, and nitre, made into balls with palm oil and a little lintseed-meal. This course I would pursue in usual cases until two or three emetics had been given, and a ball morning and night on the intermediate days.

This is the only febrile stage of distemper, if much fever ever accompanies it. Should the huskiness after the first two or three days not diminish, and the dog not rapidly lose flesh, I should be disposed to take a little more blood, and to put a seton in the poll; but I would use the proper seton needle, and not the barbarous red-hot iron of the farrier. It should be inserted between the ears, including as much of the integument as possible, and, indeed, reaching from ear to ear. When there is fever and huskiness, and the dog is not much emaciated, a seton is an excellent remedy; but if it be used indiscriminately, and when the animal is already losing ground as fast as he can, and is violently purging, you will only hasten his doom, or, rather, make it more sure.

It is now, if ever, that pneumonia will be perceived. The symptoms of inflammation in the lungs of the dog can scarcely be mistaken. The quick and laborious breathing, the disinclination or inability to lie down, the elevated position of the head, and the projection of the muzzle, will clearly mark it. More blood must be subtracted, a seton inserted, the bowels opened with Epsom salts, and the digitalis, nitre, and James's powder given more frequently, and in larger doses.

Little aid is to be derived from observation of the pulse of the dog, it varies so much with the breed, and size, and age of the animal. I confess that many years' practice have failed in enabling me to draw any certain conclusion from it. The best place to feel the pulse is at the side. One very important information we may possibly gain from it, viz. whether digitalis is producing an intermittent pulse, which it frequently will do, and which we wish that it should. The digitalis should then be given a little more cautiously, and in smaller quantities.

If the pneumonia be conquered, or we have proceeded so far without any considerable inflammatory affection of the chest, we must now begin to change our plan of treatment. If the huskiness continues, and the discharge from the nose is increased and thicker,

and the animal is losing flesh and getting weak, we must give half the quantity of the sedative and diuretic medicine, and add some mild tonic, as gentian, chamomile, and ginger: with occasional emetics; and take care to keep the bowels in a lax but not purging state. The dog should likewise be urged to eat; and if he obstinately refuse all food, he should be forced with strong beef jelly, for a very great degree of debility will now frequently ensue.

We have thus far considered the treatment of distemper from its commencement; but it may have existed several days before we are consulted, and the dog may be thin, and husk, and scarcely eat. In such case give an emetic, a dose of salts, and then proceed to the tonic and fever balls.

Should the strength of the animal continue to decline, and the discharge from the nose become purulent and offensive, the fever medicine must be omitted, and the tonic balls, with carbonate of iron, administered.

Some veterinarians are very fond of gum resins and balsams. My late partner, Mr. Blaine, in his excellent treatise on the distemper, in his "Canine Pathology," recommends gum Myrrh and gum Benjamin, and balsam of Peru, and camphor. I much doubt the efficacy of these drugs. They are beginning to get into disrepute in the practice of human medicine; and I believe that if they were all banished from the veterinary materia medica we should experience no loss. When the dog begins to recover, although not so rapidly as we could wish, the tonic balls, without the iron, may be advantageously given, with, now and then, an emetic, if huskiness should threaten to return; but mild and wholesome food, and country or good air, will be the best tonics.

If the discharge from the nose becomes very offensive, and the lips swelled and ulcerated, and the breath fœtid, an ounce of yeast may be administered every noon, and the tonics morning and night; while the mouth is frequently washed with a solution of chloride of lime.

At this period of the disease the submaxillary glands are sometimes very much enlarged, and a tumour or abscess is formed, which, if not timely opened, breaks, and a ragged ill-conditioned ulcer is formed, very liable to spread, and very difficult to heal. It is prudent to puncture this tumour as soon as it begins to point, for it will never disperse. After the opening, a poultice should be applied one day to cleanse the ulcer, and it should then be daily washed with the compound tincture of Benjamin, and dressed with calamine ointment. Tonic balls should be given, and the animal liberally fed.

Should fits appear in an early stage, give a strong emetic; then bleed, and open the bowels with six grains of calomel and a quarter of a grain of opium: insert a seton, and afterwards give the tonic balls.

The progress of fits, in the early stage of the disease, may thus be sometimes arrested. Two or three should not make us despair; but if they occur at a later period, and when the dog is much reduced, there is little hope; for this additional expenditure of animal power will soon carry him off. All that is to be done, is to administer a strong emetic, obviate costiveness by castor oil, and give the tonic balls with opium.

In fits, and indeed in every period of the disease, the animal should be kindly treated. Rough brutal usage will often bring on fits, and coaxing and kindness, even without medicinal aid, will sometimes put an end to them. At the moment of the fit, and especially if the dog is dangerous and will not be fondled, a cup of cold water dashed violently in his muzzle will frequently have an instantaneous and almost magical effect. The dog starts, looks eagerly around him, and is himself.

Of the treatment of the yellow disease I can say little. I have not succeeded in one case in twenty. When good effect has been produced, it has been by one large bleeding, opening the bowels well with Epsom salts, and then giving grain doses of calomel twice a day in a tonic ball.

While it is prudent to obviate costiveness, there is nothing more to be dreaded, in every stage of distemper, than diarrhœa. The purging of distemper will often bid defiance to the most powerful astringents. This shews the folly of giving violent cathartics in distemper; and when I hear of the ten, and twenty, and thirty grains of calomel that are sometimes given, I think it very fortunate that the stomach of the dog is so irritable. The greater part of these kill-or-cure doses is ejected, otherwise the patient would soon be carried off by superpurgation. There is an irritability about the whole of the mucous membrane that may be easily excited, but cannot be so readily allayed; and, therefore, except in the earliest stage of distemper, or in fits, or the small portion of calomel which enters into our emetic, I would never give a stronger purgative than castor oil or Epsom salts. It is of the utmost consequence that the purging of distemper should be checked as soon as possible. In some diseases a sudden purging, and even one of considerable violence, constitutes what is called the crisis. It is hailed as a favourable symptom, and from that moment the animal begins to recover; but this is never the case in distemper; it is a morbid action, and, much sooner than we are aware, produces a dangerous degree of debility.

The proper treatment of distemper-purging is first to give a

good dose of Epsom salts; to carry off any thing that may offend, and then to ply the animal with mingled absorbents and astringents. A scruple of powdered chalk, ten grains of catechu, and five of ginger, with a quarter of a grain of opium, made into a ball with palm oil, may be given to a middle-sized dog twice or thrice every day. To this may be added injections of gruel, with the compound chalk mixture with opium.

When the twitchings which I have described begin to appear, a seton is necessary, whatever may be the degree to which the animal is reduced. Some stimulating embrocation (Tr. lyttæ) may be rubbed along the whole course of the spine, and the medicine which has oftenest, but not often, succeeded is equal quantities of castor oil, syrup of buckthorn, and syrup of white poppies, given in moderate doses, morning and night, and a tonic ball at noon. If the dog will not now feed, he should be forced with strong soup. As soon, however, as the spasm spreads over him, and is accompanied by a moaning that increases to a cry, humanity demands that we should put an end to that we cannot cure. Until this happens I would not despair, for many a dog has been saved that had lain several days perfectly helpless.

As to the chorea which I have mentioned as an occasional sequela of distemper, if the dog be in tolerable condition, and especially if he be gaining flesh, and the spring or summer be approaching, there is a chance of his doing well. A seton is the first thing; the bowels should be preserved from constipation; and the nitrate of silver, made into a pill with linseed meal, and in doses of one-eighth of a grain, and increasing to a quarter of a grain, should be given morning and night.

Some cautions may not be unuseful. We should never make too sure of the recovery of a distempered dog, or commit ourselves by too early a prognosis. It is a sadly treacherous disease. The medicines should be continued until every symptom has fairly disappeared; and for a month at least after this, all violent exercise should be scrupulously avoided. If a dog be hunted, or suffered to run after a horse, while the distemper is on him, or for some time afterwards, his death warrant is sealed. The golden rules are—abhor all specific nostrums; suit the medicine to the symptoms; feed well; keep quiet and tolerably warm; do not imagine the dog to be well before he is; and do not expose him to the danger of a relapse.

Of preventives I have little to say. Good feeding is the best preventive. A growing dog, and until he has had the distemper, should have nearly as much as he will eat. The distemper will try the strength of the best conditioned animal, and a half-

starved whelp is sure to perish. When Dr. Jenner established the preventive efficacy of the vaccine matter, his kind heart induced him to wish to extend the blessing beyond the human being. If he could preserve the meanest quadruped from painful or fatal disease, he was adding to the general sum of happiness. His benevolent feeling got the better of his excellent judgment; and he fancied and maintained that the cow-pox was a preservative against maladies as different from it as gout from consumption. He even published the result of many experiments on the preventive power of the cow-pox against distemper. It, however, unfortunately happened that his description of distemper was no more like the true disease than "I to Hercules." It was made up of distemper and rabies, and unlike both. I have again and again put the power of this boasted preventive to the test, and I can say, without the slightest hesitation, that it is altogether without effect. I know many gentlemen who have placed implicit faith in the power of vaccination, and their whole kennel has been submitted to the operation. The season has been favourable, and the disease either has not appeared, or has assumed the mildest type, and I have got into sad disgrace; but many years have not passed before the distemper has broken out, and carried off the majority of those who were supposed to be exempted from its attack.

ON THE NAVICULAR DISEASE, AND NEUROTOMY.

By W. DICK, *Esq. Lecturer on Veterinary Anatomy, &c. Edinburgh.*

To the Editors of "The Veterinarian."

GENTLEMEN,—I have read with pleasure, in your last number, Mr. Turner's ingenious essay on the Symptoms and Cure of Navicular Lameness. In it he has introduced an observation I have made on the effects of friction in the navicular bursa after neurotomy, and has mentioned some cases to show that the friction alluded to is not always necessary to constitute the failure of the operation by the descent of the fetlock in old and extreme cases. As, however, the same object may be expected to present different appearances, according to the theoretical medium through which it is viewed, I take the liberty of troubling you with the following remarks.

I have mentioned, in the essay to which Mr. Turner alludes, that in some cases the ulcerated surface of the navicular bone

is frequently so extensive, that after the nerves have been divided, the *friction* which takes place divides the tendon, and the pastern falls to the ground. Mr. Turner states that he has seen cases where the tendon has given way immediately on the animal being allowed to get up; and therefore considers that in such cases *friction* could not have been the cause. He also observes, that he has seen cases where the tendon has been so attenuated by absorption, that he could see distinctly through the few remaining fibres.

Never having met with a case where the tendon has given way so immediately after the operation as in those mentioned by Mr. T., I have not alluded to them, but those he has mentioned do not induce me to alter my opinion.

If a fresh rope was made to pass over a pulley (which the navicular bone may represent), and was attached to a resisting body, and if the pulley in course of use, instead of having the smoothest possible surface, was to become worm-eaten, and to put on a ragged surface, the friction would be such as soon to destroy the rope; but if the machine was so admirably constructed, that the engineer, although he could not restore the sound state of the parts, could, by throwing a little more of the weight upon the other ropes and tackle, still keep the machine in motion, and at the same time save the injured part; and if, after a time, the engineer could, by some means or other, be led to suppose that the pulley and rope had been made as sound as ever (while, on the contrary, the rope had continued to waste, and the pulley to have become rougher than at first); and if, under such circumstances, the strain was to be thrown at once upon these parts, what might we expect to be the consequences?—why, that, by the first movement, the rope would be sawn through.

That friction is the *cause* of the attenuation and absorption of the tendon at the part alluded to, I am induced to believe, from the appearance which it presents in such cases, as mentioned by Mr. Turner, for I have found portions of the tendons on the surface next the navicular bone exhibiting the appearance of several of the fibres of the tendon having been divided, as it were, about the centre of the bursa, retiring upwards and downwards, and coiled up, or the ends of the fibres rounded, as if from the play of the parts; in other cases the appearance of a separation of fibres longitudinally, similar to what is shown when a tendon taken from the dead subject has been drawn several times over a rough surface. Such appearance I have no doubt Mr. T. must have observed in his minute examination of these cases.

It must here be observed, that the operation of neurotomy reduces the foot to the state of an inanimate machine, and I am

therefore entitled to apply the reasoning I have adopted to it. It is only by viewing it in this light that we are enabled to account for all the phenomena which occur. In depriving the foot of its nervous communication with the rest of the body, we at the same time deprive it of its nervous, its vital energy; and we have then nothing to trust to but the exquisite mechanism and physical strength of the materials; and we know that, however beautiful the parts of an animal body may be formed and arranged, its power resides in its vitality. The body is only the machine by which the animating spirits operate; the nerves are the wires which convey its commands and its powers to the individual parts. Such being the case, need we wonder that, deprived of such influence, we find it soon gives way? Nay, it has even been proved, that these parts, in otherwise a sound and healthy condition, are unable to withstand the friction and strain which exists.

Mr. Castley has informed me, that in one instance, as an experiment, he divided the nerves of a horse above the pastern joint, in which the feet were sound, and that the flexor perforans some months after gave way; thus showing, that, when the vital power is destroyed or exhausted, the parts of a living body are acted upon like other machinery (it must be observed, however, that a horse with long pasterns was selected for the experiment). I am therefore inclined to think that the nervous energy, with increased action of the *flexor perforatus*, has a greater influence in preserving the perforans tendon from being destroyed prior to the operation, than any controul the animal can possibly exert over the extensor muscles.

If the extensor pedis is in a state of contraction, it must, of course, extend the foot, and the action of the extensor suffraginis will assist it; while the relaxation of the flexor perforans muscle will not relieve the navicular bursa, because the powerful ligament arising from the posterior of the os magnum of the carpus, and inserted principally into the perforans tendon (the corrected anatomy and diseases of which have been so strangely overlooked by British veterinarians), will, while the extensors are in action, keep the tendon of the perforans so much upon the stretch, that the navicular bone must be pressed upon and supported by it; but if the extensors are relaxed, and the limb is acted upon by the flexor perforatus, we at once see why by its increased action, and the remaining nervous energy of the part of the perforans, the tendon does not give way previously to the operation.

TWO CASES OF SCHIRROUS MESENTERIC GLANDS, AND ONE OF ANEURISM.

By Mr. Brown, *of Melton Mowbray.*

CASE I.

February 7th, 1829.—A brown cart filly, two years old, apparently labouring under the inflammatory stage of strangles, with tumefied submaxillary glands. I gave her some fever medicine, and applied a stimulating embrocation to the swollen glands and throat, and ordered mashes of bran and oats.

9*th*.—I opened the abscess in the submaxillary gland on the near side, which discharged a considerable quantity of pus; I then applied a small bit of tow, impregnated with digestive liniment, to the suppurating gland, and administered vegetable tonics combined with powdered digitalis and emetic tartar.

13*th*.—Pulse 70, and small; respiration limited; considerable discharge from the nose; and frequently lying down. Gave liquor ammoniæ acetatis ℥iv, powdered opium ℈ij, infusion of chamomile flowers ℥vj, and spirit of nitrous æther ℥i.

14*th*.—Draught repeated.

15*th*.—Pulse 54, appearing much better, but frequently lying down on the off and turning her head towards her near side, as if labouring under some chronic thoracic or abdominal pain. Blister ointment applied to the sides.

16*th*.—Pulse 76; discharge from the nose nearly stopped, with other symptoms of febrile action. I then gave Barbadoes aloes, combined with powdered digitalis, emetic tartar, and nitre, until the fæces were voided in a pulpy mass.

18*th*.—Convalescent: vegetable tonics given.

22*d*.—Opened the abscess in the submaxillary gland on the off side, after which she recovered so much as to be able to do some gentle work; and I heard no more of her until April the 26th, when, to my surprise, I was informed that she was unwell, and had not improved in condition, notwithstanding good keep, since her previous illness. On my visit, I found her in a field, lying on the off side, with her legs stretched out, frequently raising her head and looking towards her near side; her coat standing on end, and feeling unhealthy; eyes shrunk in the orbit; mouth rather dry and very pale; membrane of the nose of the same hue; pulse 52; dejection of countenance; disinclination to move; with considerable rumbling noise of the intestines. On passing my hand, with considerable pressure, along the parietes of the abdomen, anteriorly and laterally, to the umbilicus, it caused her to

make a sudden and violent contraction of the abdominal muscles, accompanied with an elevation of the back; but, in consequence of not being able to detect any indurated substance in the abdomen, I did not pay much attention to it, as she was naturally of an irritable habit. I conjectured that she was labouring under debility, and, in all probability, would recover; and ordered her to be taken into the stable at night, and to have a feed of corn morning and evening, and to be turned out during the day. I also sent six balls, compounded of carbonate of ammonia, powdered bark, ginger, camphor, and oil of aniseed, and made up with simple syrup,—one to be taken on each alternate day. With this treatment she improved in condition, and was apparently doing well, until May the 29th, at which time I was requested, in great haste, to see her. The servant said she was labouring under inflammation of the bowels. On my visiting her, she had all the symptoms of that complaint, and I treated the case as such, but which treatment did not afford the slightest relief. She died about 2 P. M.

Post-mortem appearances.—The stomach was distended, with its villous coat injected, and about the termination of the jejunum into the ileum, the intestine encircled a schirrous mesenteric gland: the coats of that portion of the intestine were considerably thickened, and the mucous coat in a gangrenous state, with a stricture anterior to the inflamed part, which would not admit the fæculent matter into the diseased portion of the gut. The tumour was nearly oblong, weighing 4 lb, situated transversely in the abdomen, and inclining to the near side; one part was of a scrophulous texture, and the other appeared to be layers of coagulated lymph, with a cavity in the centre containing a yellow serous fluid. The mesentery was considerably thickened, from the tumour to the spine.

CASE II.

Oct. 10th, 1829.—A red cow, six years old.

Symptoms.—Depression of countenance; eyes shrunk in the orbits; conjunctival, nasal, and mucous membranes very pale; stripes of cuticle surrounding the eyes, nose, and mouth, of a pale yellow; pulse 64, and small; respiration limited; disinclination to move; with considerable distention of the abdomen.

On passing my hand along the parietes of the iliac region, between the tuberosity of the ileum and the last rib on the off side, I could distinctly feel a large tumour, which would not yield to pressure. I considered the case hopeless, and advised the gentleman to whom the cow belonged to have her destroyed. He replied, that she was worth nothing in her present state, but that

she was a good subject for experiment, and he gave her up to me for that purpose. From the known effect of mercury upon the absorbent system, I determined to administer it with narcotics.

Treatment.—Give every night the following powder: calomel two scruples, extract of hemlock a drachm, and powdered opium half a drachm, with liquorice powder; and on every morning, until purging was produced, four ounces of Epsom salts in eight ounces of the infusion of cascarilla, with the same quantity of the infusion of roses. As soon as purging commenced, I omitted the internal medicine, shaved the hair from the off side, and well rubbed in an ounce of strong mercurial ointment, with a drachm of camphor; and the rubbing was repeated daily for six days. During this treatment she lost flesh, and became so weak as not to be able to raise herself up when down; and, in consequence of the tumour not diminishing, I had her destroyed.

Post-mortem examination.—On opening the abdomen, the first thing which presented itself was a large mesenteric gland, of a lobulated form, weighing 160lb. On making a section through this immense substance, its appearance was chiefly a schirrous deposit, and in some parts it contained an unhealthy-looking pus: a small part of it had the appearance of crassamentum, surrounded by a thickened portion of mysentery. It was situated in the iliac region, which it completely filled, except that portion of the cavity which was occupied by the rectum. There were attachments to the spine by the mesentery, and to the psoas parvus on the off side by dense cellular membrane. The intestines were attached to the anterior surface in their usual convolutionary way; the posterior portion of the cæcum adhered to the inferior surface of the tumour, and the part so adhering was obliterated; the rectum passed over the superior surface on the near side of the spine. The mesenteric glands presented throughout a general unhealthy appearance; and a great number of them were schirrous.

CASE III.

On the 29th of May 1829, I was requested to attend an aged mare, which had foaled about 4 A.M. I was from home at the time, and the message left was, that the mare was very ill, and they supposed that she had some obstruction in her urinary passage. On my arrival at 7 P.M. I was informed that the mare was dead; and the gentleman accused me of having lost his mare in consequence of my negligence. I remonstrated with him on the improbability of the mare's death having been caused by strangury in so short a period; at the same time stating, that

that the most probable cause was the rupture of some small blood-vessel, at the time of foaling; and prevailed upon him to allow me to open her, in order to ascertain the cause of her death. On opening the pelvis my conjectures were realized, as the cavity was filled with extravasated blood; and, on further investigation, I found the uterine artery on the off side ruptured. I then dissected a portion of the internal iliac artery from the pelvis with the uterine, and discovered an aneurism half an inch from its being given off by the internal iliac. The dilatation of the coats of the artery commenced abruptly at the superior part of the tumour, and formed a sac, measuring three inches in length and an inch and a half in diameter, gradually returning at the inferior part to the natural calibre of the artery. The aneurism was oblong and rather tortuous, which gave it a considerable convexity, where it had a rupture two inches long. The internal coat appeared healthy for the eighth of an inch in width, and on each side of the healthy part it was formed into rugæ for about the fourth of an inch, where it became reticular, and had the appearance of a deposition of a bony or earthy matter.

Reflections.—With the causes, symptoms, and progress of aneurism, we are not satisfactorily acquainted. I know of no author, except Mr. W. Percivall, who has given any account of them*. I am well aware that they will not yield to any known remedy in the present state of our art; but when we reflect on their fatal consequences, I trust it will be a sufficient apology for my laying this before the members of our humble profession. It is only by faithfully recording such cases that we can arrive at that knowledge which may ultimately lead to some useful amendment in our practice.

I am very glad to observe the success of your publication; and do sincerely hope that its pages may continue to teem with such new and useful matter, as may refute that absurd doctrine—"the diseases of the horse are few, easily comprehended, and well understood;" and stimulate us to call forth every latent power of genius and application, in order to rescue our profession from that thraldom of ignorance which has, for so many years, kept us in degradation; and, finally, fix it upon a basis which cannot be shaken by calumny, or usurped by dishonourable men.

* A case of aneurism of the aorta, taken from the French, is given at page 48 of our first volume; and an interesting paper on aneurism will be found at page 234 of the same volume.—EDIT.

ON ENTANGLEMENT AND RUPTURE OF THE INTESTINES.

By Mr. PRITCHARD, *Wolverhampton.*

A BROWN cart horse, six years old, the property of Mr. Wilson, Bushbury Hall, near Wolverhampton, had a severe attack of gripes on the morning of the 31st of March last: was bled to 8lb., and took a gripe mixture, with enemas of salt and water occasionally injected. I was called in at ten o'clock in the evening, and found him under symptoms of enteritis. I took away 10lbs. of blood, administered an aperient with opium, and rubbed a stimulant over the belly. He appeared in great agony for about an hour, and then got better; and in the course of the second day was in apparent health. He had another fit on the fourth day, but it went off on taking a gripe mixture. I ordered him a mash diet, with hay in small quantities, and to be continued for some time. In three or four days he had another attack, lay down, tumbled and rolled for half an hour, got up and shook himself, and was relieved without assistance. He continued to have a fit of gripes about every three or four days, sometimes taking a colic draught, and at others getting better without medicine: in fact, these paroxysms of pain were so frequent, that, to use the expression of the groom, he got quite used to them. In this state he continued to go on until November, when his attacks were more alarming, scarce a day passing without a severe fit of gripes. He lost flesh, and was no longer capable of work. Every attention was paid to diet, and occasional doses of aperient medicine were given; but, notwithstanding the bowels were kept moderately open, the attacks of pain in the belly were the same. On the 10th of December I was again requested to visit him. He had been very ill in the night; had eaten a little mash in the morning, and drunk some gruel. He stood still, his eyes partially closed, looking dull, and regardless of what was doing around him. Pulse 40, full, but not hard, and was evidently suffering abdominal pain. The yard was drawn; and Mr. Wilson saying that he had observed him occasionally staling in small quantities, I examined him per rectum, and found, immediately on the introduction of my hand, the cavity of the pelvis filled by a firm but somewhat elastic body, which I at first apprehended was the bladder in a state of distention. I accordingly produced a little irritation in the neck of the bladder with my hand, through the rectum, which caused a desire to stale. He accordingly placed himself in the common attitude, and voided about a pint of urine, of a natural colour and smell. I renewed my examination, and found the bladder quite empty

and contracted, but the distended body as before. I succeeded in forcing it from the pelvis into the abdomen, but it immediately returned, when I discontinued the pressure. I concluded it was a portion of the colon. I ordered him a laxative, to empty the bowels. At two o'clock the following morning he was found rolling and tumbling about the box in dreadful agony, in which state he continued until five o'clock, without the slightest remission of pain, and died.

Post-mortem examination.—Three hours after death I commenced my examination of the body, by an incision carried from the posterior cartilage of the sternum, through the linea alba, to the pelvis. I had no sooner gained the abdominal cavity, than a solution of fæces burst forth, and proclaimed a rupture of some part of the alimentary canal. I then made two more incisions, one on each side, from the umbilicus to the transverse processes of the lumbar vertebræ, and threw back the abdominal parites, when I beheld such a scene of entangled intestines as I never before witnessed, nor could I have previously conceived it possible. Unassisted by the aid of an artist to take the intestines as they appeared *in situ*, I cannot enjoy the pleasure of conveying a just idea of the true appearances; but the best I am capable of is as follows:—The apex of the cæcum lay in the hypogastric region, and was the only intestine in a state of distention; its contents little else but gas; its extreme end was thrust into the cavity of the pelvis, and proved to be the elastic body I had discovered during life. The rectum and the colon, in a flaccid state, lay to the left side, and consequently exposed a considerable portion of the small intestines. At the first view, many of their convolutions were very much entangled by three distinct cords, about the thickness of the ring finger, formed by torn portions of the omentum, which membrane was very much thickened, and had more the appearance of the mesentery than of omentum. I did not discover any strangulation of any part of the small intestines, although so much fettered by these cords. They were flaccid, and the contents of the stomach had readily passed into the cæcum caput-coli. I now proceeded to look for the rupture through which the contents of the intestines had passed in to the abdominal cavity, and, in clearing away the fæces from the base of the cæcum, I discovered a strong dense ligature, about three fingers in thickness, including that intestine about two hands breadth from its base: this ligature was formed by the mesocolon, firm in texture, and of a dark colour. Between this ligature and the caput coli, to the left side, was a rupture to the extent of two inches in diameter; that portion of cæcum strangulated by the ligature was much inflamed. In-

flammation pervaded its whole body, particularly that part contained in the pelvis. The colon was injected, but not inflamed. The small intestines, particularly the ileum, bore marks of inflammatory action. The stomach was rather distended with air, but did not seem to have participated in the disease: the peritonem had a pinky tint on its surface, forming the lining of the parietes; the other viscera appeared quite healthy.

Observations.—I consider that the rupture of the mesocolon and entanglement of the cæcum probably occurred during the paroxysms in the first instance of gripes on the 31st of March; but how this intestine got within this ligature, I am at loss to account: that its situation in the hypogastric region and pelvis was owing to being confined by the ligature; that the incessant attacks of gripes were owing to this stricture, which ultimately ended in strangulation of the bowels; that the laxation hurried on the contents of the stomach to the caput coli, and produced distention there, and in the base of the cæcum anterior to the ligature, thus causing violent pain. The animal now commenced rolling and tumbling, and forcibly dashing himself to the ground; and during one of these violent falls, the distended base of the cæcum was ruptured from forcible compression. I consider the rupture of the omentum, and entanglement of the small bowels, to have occurred during the paroxysms of the last attack, and the immediate cause of death to the rupture.

I hope I do not intrude on the pages of your Journal, by observing the pleasure I feel on hearing of its increasing one half in size; I trust it will be well supported by valuable information, and no more soil its leaves with the ire of dissatisfied parties. I imagine that was not the original intention of the work, but entirely as a source of useful information. We have something right and something wrong in all quarters; in fact, we have all our faults: and I only wish every one would try to mend one, and that every practitioner may have merit to engage in a more lucrative employment than dabbling his hands in troubled water. I wish all of them the feeling of that eminent practitioner Mr. W. Percivall, who observes in your last number, if they would only forward to the press their stock of practical information, that branch of our science would advance "the practice of medicine."

INFLAMMATION OF THE LUNGS, WITH BRAIN AND SPINAL AFFECTION.

By Mr. PROCTOR, *Solihull.*

EARLY on the 5th of November last, Mr. Kimbell, surgeon, of Knowle, wished me to attend a chesnut horse, five years old, lightly made and narrow chested. His health had been declining for the last month: he was emaciated, dull, with delicate appetite, and bad cough. When I saw him, he was labouring with symptoms of inflamed lungs, such as quick and wiry pulse, difficult breathing, coldness of ears and extremities, loss of appetite, unwillingness to move, and grunting when moved; diminution of the natural secretions. He had on the preceding night a shivering fit, and refused his meat.

Treatment.—Bled to six quarts; gave Barbadoes aloes three drachms, and digitalis a scruple; setoned the chest; blistered the breast; bandaged the legs; well clothed the body, admitting fresh air to the nostrils.

6 P.M.—No alteration, except the pulse being a little better; gave digitalis a scruple, nitre half an ounce; reblistered bosom; aloes begin to operate.

6*th.*—Appears better; breathing more easy; extremities little warmer; no appetite; great thirst; pulse better; aloes operate greatly. Blister causes irritation on the breast.

5 o'clock, P.M.—Greatly altered; appears as if sinking from exhaustion; pulse almost gone; ears and legs intensely cold; complete loss of appetite; mouth and tongue pale and cold, and appears as if inanimate.

Sat up with him all night; gave stimulants—port wine, nutritious gruel, bathed the legs with hot water and salt, embrocated them with oil of turpentine, flannel bandaged them, and used friction to the body. In two hours the wine cheered the patient, raised the pulse, and created warmth of body; but as it lost its effects, so the coldness returned, and the pulse fell. I then gave doses of ammonia with opium, which had a beneficial effect.

7*th.*—In a mending state; gave half a pint of brandy*; after sulphate of copper half a drachm, which caused a better appetite and warmth of body.

8 o'clock, P.M.—Better in other respects, but the brain is evi-

* Did not our valuable correspondent commence the stimulating system too early, and push it too far? May not this afford us a clue to the subsequent history of the disease?

dently much affected; eyes almost closed, having a yellow deposit in their anterior chambers; conjunctiva appears like scarlet velvet; dimness of the cornea; does not perceive the hand when moved about the eyes; almost torpid; sometimes he places head and neck in an erect position, then flings them up and down for some time, and makes the most curious contortions.

Did not bleed him, as he was very weak; gave a sedative; sat up with him nearly all night; frequently gave gruel.

8*th*.—Considerably different; seems as if fixed to the floor; incapable of moving; a twitching and trembling in all the muscles of locomotion; those of respiration and mastication much affected, so that he could not eat; pulse quick and intermittent; tongue and skin hot; he expressed great pain.

I expected tetanus to appear, therefore gave ammonia a drachm, and opium half a drachm, three times, and stimulated the whole spine twice during the day.

6 o'clock, P.M.—Little better; the servant sat up all night, who continued the gruel and medicine.

9*th*.—Twitching has left the muscles of the jaws and of respiration and the anterior part of the body, and the disease seems now settled wholly in the loins and hind extremities, which induced us to think the spinal chord of the lumbar vertebræ now became affected by the shifting inflammation. This appeared evident, from striking the loins in order to jar the chord, which brought on great agony, followed by violent twitchings and contractions of the muscles of the loins, extending quickly to those of the thighs, which felt like lumps. Pulse very quick; fæces mixed with great quantity of tough yellow mucus.

Bled to three quarts; the blood much buffed; gave a drachm and a half of aloes; applied a stimulant to the loins.

4 o'clock, P. M.—Great deal better; could walk about the stable, although the partial stiffness remains; pulse better; aloes operate; no appetite: continue nutritious gruel.

10*th*.—Remains better; aloes purge much; no appetite; gave sulphate of copper half a drachm in a pint of beer; ordered plenty of gruel.

5 o'clock, P.M.—Muscles less affected; appetite bad; purges to an excess; gave, as an astringent, tincture catechu an ounce and tincture of opium half an ounce; ordered plenty of thick gruel: the purging stopped two hours after having the astringent; servant sat up.

11*th*.—Better; appetite mended; gave half a drachm of sulphate of copper, and ordered gruel, young grass, and carrots.

8 o'clock, P.M.—Appears rather dull and stiff; eats little; continued the gruel; friction to the loins.

12*th*.—Twitching of muscles; stiffness and pain returning; pulse quick and strong; mouth hot; discharge of unhealthy mucus with the fæces. Bled to three quarts; blood buffed as before; gave no medicine, system being so depleted: applied fresh sheep's skin to fleshy part next to loins; ordered plenty of gruel.

13*th*.—No great alteration; loins sweating much; pulse better; appetite bad; gave half a drachm of sulphate of copper in a pint of beer; offered him corn and nutritious matter.

14*th*.—Little better; loins sweat profusely; appetite not much better; gave half a drachm of sulphate of copper, and a scruple of sulphate of quinine in beer.

15*th*.—Much better; appetite good; applied fresh sheep's skin to loins.

17*th*.—All pain apparently left; could walk and trot with ease; feeds well.

18*th*.—More lively; eats well, but rather stiff in near hind leg.

20*th*.—Quite lame in near leg; ordered sheep's skin and plenty of clothing to the loins.

22*d*.—No better; continue warm clothing; gave an ounce of nitre.

26*th*.—Very lame; tenderness about hip joint; twitching and rigidness in flexor muscles of the thigh; he experienced great pain, and could scarcely set the foot to the ground: blistered the hip joint.

29*th*.—No better; inserted a large seton in the right side of the loins, and another over the hip joint, it being very sensible.

1*st Dec*.—Nearly well; could walk and trot with ease; setons discharge in great quantity.

5*th*.—Walks and trots well; very lively; gains flesh.

8*th*.—Quite well; took out seton; left that in the thigh.

12*th*.—Remains well; gets fat.

PS. I feel much pleased with the proposed enlargement of "The VETERINARIAN," which will deservingly demand an additional price.

THE VETERINARIAN, FEBRUARY 1, 1830.

Licet omnibus, licet etiam *nobis*, dignitatem artis *veterinariæ* tueri.—CICERO.

ON Saturday, the 23d ultimo, the yearly dinner of the Veterinary Students to their Professors, and the Medical Teachers to whose lectures they had been gratuitously admitted, was given at the Freemasons' Tavern. The guests were—Sir Astley Cooper (in the chair), Messrs. C. Bell, Brodie, Brooks, Coleman, Field, Green, Hawkins, and Mayo, and Drs. Bright and Sigmond. Few of the staid practitioners were present, whom we used to see with pleasure surround their old instructor; but we recognised Messrs. Bartlett, W. Field, Jumpson, King jun., Morgan, Palmer, Rushman, Sibbald, James Turner, Thomas Turner, Woodin, and Youatt.

After the usual introductory toasts, the Chairman told us that he was now travelling homeward, and gave, without introduction, "The Governors of the Veterinary College." We give him credit for the tact which he displayed here; for, indeed, it would have been difficult for him, with all his ingenuity, after the undeserved and flagrant insults which had been offered by these gentlemen to the veterinary practitioners, to have adduced one solitary, shadowy argument that could have rendered such a toast palatable.

Next was given "The Examiners," men eminent in their profession, truly honourable, and our obligations to whom would not soon be forgotten.

To this followed, with many well-deserved compliments, "The restoration to health and enjoyment of Drs. Babington and Cooke;" good and amiable men, warmly esteemed in the circle in which they moved, and justly entitled to our esteem and gratitude.

To this succeeded, "The medical teachers to whose theatres the veterinary students had been gratuitously admitted;" and ill befal him who ever forgets or undervalues the boon! It is, how-

ever, a bad system. It savours too much of the charity-school. It strikes at the root of our independence and respectability. If we profess to be educated as gentlemen, if we claim to be received in society as such, away with this pauperism! Let the pupil find within the College walls all that he requires; or let his initiatory fee *entitle* him to attend on certain lectures beyond these walls. This system of *gratuitous* instruction must, of necessity, place us in a state of inferiority and degradation, incompatible with the nature of our profession and our just claims.

Mr. C. Bell returned thanks; and there was so much feeling and kind-heartedness in what he said, that the impression will not soon be worn away. He lamented that now, engaged in another school, over the management of which he had little control, and, indeed, not being the anatomical teacher there, he was no longer able to admit the veterinary pupils to his lectures; but he still retained the vivid impression of their uniformly good and gentlemanly conduct when he had the pleasure of seeing them at his theatre; and should the time arrive when there might appear a probability of procuring their admission either to the lectures on chemistry, or on comparative anatomy, which were delivered at the London University, all the influence which he possessed should be zealously employed.

He then contrasted the two professions, so far as the feelings of the practitioner were concerned. "The human surgeon," he said, "was often called in under circumstances of peculiar difficulty, and witnessed the most harrowing scenes. The veterinary surgeon had only just enough to excite him." We do not think that Mr. Bell did us quite justice here. If we throw ourselves into our profession, as it is our duty to do (and some of us, we trust, actually do), the interests of our employers, and the sagacity and value of the animal on which we operate, and some of our operations, are almost as complicated and as difficult as those performed on the human being: these identify us with the case, and sometimes expose us to a keenness of regret scarcely inferior to that of the human surgeon. It is a law of nature, that that on which the mind is fully occupied shall possess an intensity of interest, little connected with the comparative value or importance of the thing.

We were lately desired to visit an elderly lady: she was descended from a noble family, but was in decayed circumstances, and had outlived all her friends but one,—an old blind and deaf spaniel, scarcely able to crawl, but whose feeble powers were principally employed in creeping as close as it could to its mistress, and resting its head upon her lap. A careless girl had, on that morning, suffered it to be run over, and its back was broken. We found it lying on the sofa, nestling closer to her than ever, and every now and then turning up its sightless, pearled eyes, as it were to gaze upon her, with an intensity of expression (if we may dare to say so of a dog) which we shall never forget. We ventured to recommend that a speedy termination should be put to that torture which no skill could relieve. A reluctant consent was obtained: "I shall not be long after her!" said she. We discharged a painful duty, and, in less than a week, the old lady died broken-hearted. Were we merely *excited* here?———But we are wandering into a subject not uninteresting, we are persuaded, to our excellent examiner, but foreign to the purpose of this article.

The Chairman next proposed the health of "The Professor," with whom he had lived in the strictest friendship for forty years, and the more he knew of him, the more he respected him. He was elected to the office, which he had so long filled with credit to himself and advantage to the profession,—not because he was a groom or a jockey, for he should be sorry to see his friend on the back of a restive horse, fearing that too soon he would be off again,—but because he had successfully devoted himself to the pursuit of physiology, and had given to the world a treatise on a certain point of physiology, the merit of which was, to the present day, justly appreciated. He was selected from many who would have thought themselves honoured by the appointment, at the concurrent advice of Mr. Cline and Drs. Fordyce and Crawford; and since he had occupied the Professor's chair, things had gone on prosperously at the College. The Chairman alluded to the improved ventilation of the cavalry stables; the establishment of a veterinary pharmacopœia, instead of the farrago of drugs with which, reasoning from false analogy, the horse had been drenched; and he referred to the honourable distinction conferred on the

army veterinary surgeon through the instrumentality of Mr. Coleman, and known in no foreign corps; and he called on those who respected the Professor, and felt the benefit they derived from his instruction, to do justice to the toast.

Professor Coleman complimented the Chairman on the steadiness and ardour of friendship by which he was characterised. Had he not been supported by him, and by gentlemen like him, on his right hand and his left, he would not have dared to retain the situation to which he had been elevated; but, enjoying the good opinion of those he valued, and having the happiness to know that he possessed the affection and confidence of his pupils, he would not resign the honourable station he occupied so long as life and health remained. He trusted, however, that there would be some kind friend who would warn him when he ought to retire, but until then he would endeavour to discharge his duty. He begged to propose the health of his old and tried friend the Chairman.

Sir Astley Cooper described the pleasure with which he had witnessed the improvement of our profession,—our advance from farriery to science; and he trusted that we should still proceed, until we occupied that situation in society to which our profession gave us a claim. He had worked with us and for us, from affection for his fellow-student and friend, and from love for the art. He then digressed (why we know not, and we lament the digression) to the constitution of the veterinary examining committee, which he affirmed was "the best constituted that could possibly be devised." "The examiners," he said, "were men eminent in their profession, and acquainted not merely with minute anatomy, but the principles of disease, and therefore qualified to judge of the pupil, not only as a mechanic, but as a medical proficient. If the board were otherwise constituted, if it were occupied by veterinary practitioners, they might be suspected or accused of partiality, although he could not imagine the real existence of these things; but among the present examiners there could be no partiality, and the students and the public would be assured that justice would be done."

"*The present examining committee is the best constituted that can possibly be devised!*" so says Sir Astley, at the students'

dinner; but what does he say and do when this committee had met to consider the propriety of a change in its constitution?—First, we have the following document:—

"At a meeting of the Medical Examining Committee of the Veterinary College, held at the Freemasons' Tavern, on 21st May, 1827; Sir ASTLEY COOPER, Bart. President,

"Resolved, that, in consequence of the more extended cultivation of the veterinary art, it appears to this meeting expedient to recommend to the general meeting of subscribers of the Veterinary College, to appoint, in addition to the present Medical Examining Committee, a Veterinary Examining Committee, consisting of the Professor, Assistant-professor, and Veterinary Surgeons; and that no diploma be in future granted to veterinary students, unless they shall have been examined and approved by both committees.

"Resolved, that the above resolution be presented by Professor Coleman to the next general meeting of subscribers to the Veterinary College.

"ASTLEY COOPER."

The next document runs thus:—

"At a Special Meeting of the Medical Examining Committee, convened May 20th, 1829, for the purpose of taking into consideration a memorial from a committee of veterinary surgeons, Sir A. P. COOPER, Bart. President; the memorial having been presented by Professor Coleman, and duly considered,

"The Medical Examining Committee resolve, that they see no reason to alter their opinion, as expressed in certain resolutions on the 21st May, 1827, and presented by Professor Coleman on the 7th June, 1827, to a general meeting of subscribers; and resolve, that, in order to afford every facility to the general meeting, should they think proper to appoint a veterinary examining committee, the medical committee wish it to be understood, that it would be most agreeable to their feelings that their services should be gratuitous.

"Resolved, that this resolution be communicated by Professor Coleman to the Committee of Veterinary Surgeons.

"ASTLEY COOPER."

The recommendation of the committee, and a memorial to the same effect from the body of veterinary surgeons, were rejected *by the governors*, and the committee remained precisely as it was; and on Jan. 23d, 1830, this Sir Astley Cooper, in the face of these documents, unhesitatingly says that that which it was deemed so expedient to modify "*is the best established that can possibly be devised.*"

There is something passing strange in all this. It is altogether beyond our comprehension.

As to the supposed partiality, we only ask, are the examiners at Surgeons' or Apothecaries' Hall suspected of it? If so, let them give way to some of us, who are as competent to examine human surgeons as human surgeons are to examine veterinary ones, and who can have no partiality. These examiners, however, are honourable men, and far above this suspicion; and let us tell this gentleman, that the veterinary surgeon would be swayed by a principle as honourable, and, uniformly acting under the influence of this principle, would soon command the full confidence of the public.

The Chairman next alluded to Mr. Coleman's hint of resignation, and exclaimed, that, "If he did resign while he had health, he would deserve to be flogged; and he should not resign while the privilege of friendship gave him any control over the mind of the Professor."

And so say we, and so says the profession. Who are those, or where are they, who would urge or endeavour to accomplish the resignation of the Professor? Because the Veterinary College is not that which its founders intended that it should be, and the education of the pupil is manifestly imperfect and inadequate, and there has been going on, for many a year, a system which has inundated us with incompetent practitioners, and degraded us in the eyes of the public and in our own estimation, and we complain of all this, are we to be met at every turn with threats of resignation? We ask again, who has urged or wished the resignation of the Professor?

We *have* urged on him the claims of the pupil and the interests of the profession; we have entreated him seriously to compare the College as it was intended to be, with the College as it is; we have prayed him to commence an efficient yet gradual reform; and we have also told him, that he would then find himself speedily surrounded by a phalanx of *old* and zealous friends, who would enable him to laugh to scorn his real enemies, if he has them. Let us, then, hear no more of this *resignation.*

The Chairman now proposed the health of Mr. Sewell, the recent death of whose father precluded his attendance on that

day. Mr. Sewell had given his principal attention to the practical part of the profession. The students would bear witness to the valuable information which they derived from him, and he would testify to the able assistance rendered by that gentleman at the examiners' board.

Mr. Curtis returned thanks in behalf of Mr. Sewell, assuring us that only such a cause could occasion the Assistant-professor's absence.

The health of Mr. Vines was next drunk, who was now acting as an efficient and indefatigable demonstrator. The Chairman knew of no office more important, and he was assured that the pupils would justly estimate the services rendered by Mr. Vines.

Mr. Vines professed his zeal for the improvement of the pnpil, and the pleasure which it gave him when he was enabled to contribute to it.

"The other veterinary schools" was then given, particularly Mr. Dick's in Edinburgh, and Mr. Youatt's; and, in introducing the toast, the Chairman dilated on the necessity of conducting these schools on liberal and honourable principles.

Mr. Youatt returned thanks. He had not the happiness to enjoy the patronage under which Mr. Dick appeared. His humble lectures were attempted under no patronage at all—attempted under peculiar disadvantages, with regard to the most prominent of which, however, the fault lay not with him; but he trusted that they, like the lectures of Mr. Dick, were, and ever would be, conducted on those honourable principles which the Chairman had very properly advocated. His were not lectures of opposition: they were merely subsidiary. He was attempting to fill up a chasm which had too long existed in the education of the veterinary pupil; and he would venture to predict that the time was not far distant when the instruction delivered to the pupil would embrace the anatomy and diseases of every animal on which he might be called to practise. Reason and justice demanded this. When this was accomplished, he would willingly give way to better men; yet, considering the peculiar circumstances under which he acted, he might be forgiven if he publicly declared, that he would be then, and was now, willing

to submit, at a moment's warning, to any examination, by any persons, *on the subjects which his lectures embraced.* For the present, however, he must be permitted to follow his own course, yielding to none in zeal for the art of which he was a practitioner, and vying with those in higher situations and with superior advantages in the benefits he could render it.

The Chairman announced the health of those veterinary authors, by whom the science had been improved; and he enumerated Messrs. Percivall, Goodwin, Field, Bracy Clark, and Youatt, and particularly Mr. James Turner, whose papers on the navicular disease he had lately read with very great pleasure.

Mr. Turner returned thanks in a short and neat speech.

"The Stewards" were not forgotten, whose arrangements, indeed (except that, after the first hour, we had most execrable wine), were admirable. Messrs. Spooner and Curtis returned thanks, and, shortly after, the majority of the company separated. We left Mr. Vines in the chair, supported by a strong party of the pupils.

On the whole, it was not a pleasant meeting. There was a constraint, and gloom, and suspicion, and want of conviviality about it, which we have not before seen. Only one poor joke enlivened the scene. We can recollect when these were delightful meetings.—Whence arises the change?

Review.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

A Treatise on the Care, Treatment, and Training of the English Race Horse, in a Series of Rough Notes. By R. Darvill.

[Continued from page 57.]

CHAP. V.—Food.

"Upland hay, well got in, is the most proper for horses in training; and it may be used the following year. Neither new hay, nor such as has been heated in the rick, should ever be given. Clover hay may be given to light delicate horses by way of change; but not to craving horses."

Grain and pulse are commonly used as articles of food, in addition to the hay, which of itself is not considered sufficiently nutritive and substantial to support the animal under his more laborious and trying duties. Those generally chosen are,

"Oats, which (Mr. Darvill says), are the most nutritious of any corn, and appear to agree best with horses. To be of the best quality, they should prove sweet, heavy, and thin in the skin, and so thoroughly winnowed as to do away with all the light grains and tailings."

The pulse used as food are beans and peas.

"Beans are very nutritious, and are of an astringent and heating nature; and if given too liberally, they produce thirst, and make horses costive. Craving horses do not require them; though even to them beans may be given at places where the corn is found to be of bad quality."

"Beans should be mixed with the oats of such horses, likewise, as are in the habit of 'throwing off their meat.' Prior to being given, the beans should be hulled and split.

"White peas are sometimes mixed with oats by way of change; but beans are preferable.

"Chaff consists of a mixture of about equal parts of the best sort of hay and wheat straw, cut short in a machine. It is given to horses mixed with their corn, to make them grind the grain. The best clover hay, cut into chaff, may, in small quantities, be given to light delicate horses, even while in training, to induce them to eat more heartily."

Bran, the produce of the ground husk of the oat, is the provender we make use of when a low diet is required; at the same time, to it is usually ascribed some laxative effects on the bowels. It is commonly given in the form of a *mash*, the proper mode of making which is to pour *boiling* water upon the bran, in sufficient quantity, and afterwards to cover the vessel up so close as to confine the steam until the mixture has acquired the temperature at which we wish the animal to eat it.

"Bran is generally used in preparing horses for physic. It is also useful for such horses as are apt to be costive. A mash of equal parts of bran and corn is very efficacious in keeping the body open."

With all deference to the experience of our author, as a groom, we have always held bran and corn to be not only a heterogeneous sort of mixture, but a combination that was by no means suited to the purposes intended. Bran requiring but little or no mastication, and oats a great deal of "grinding," the latter, when so given, we have found to be very liable to pass through the body whole, leaving, consequently, the animal but little or nothing benefitted by them. When oats are to be given mixed with the mash, they ought to be scalded with the bran; and thus, being like it rendered soft, would with it undergo the necessary mastication.

Mr. D. objects to turning out racers: he says,

"When once taken into training, they should be kept in stables, both summer and winter, until they have completed their running. When turned out they often come up with bad, and even incurable coughs; and, from their natural voracity, acquire large carcasses, becoming fat, soft, and bloated, with their muscles and tendons relaxed. To get them again into training condition, would require as much time and trouble as if he were a colt; and perhaps not, after all, so well accomplished as it would had he never been turned out."

Our author conceives that these disadvantage more than counterbalance the renovation which he admits both the constitution and legs undergo from "pure air," "green food," and "exercise," *ad libitum*.

"The most natural and judicious way of refreshing such (craving) horses is, by giving them rest for a sufficient time, and soiling them in the stables for two or three weeks.

"The proper green food consists of tares, vetches, lucerne, and clover grass. They should be sown so as to furnish a succession of crops, from early in the spring until late in the autumn; and should be cut just before they begin to blossom, while young and full of juice. Corn may, or may not, be given at the time, according as the groom requires a purgative effect or not to be produced by the green meat. It is a great point carried if a craving horse can be got to purge and stale moderately by its use, i. e. provided he is not engaged to run again in a short period. Green food may be given to 'light-hearted' horses, mixed with hay. In winter, carrots will be found an excellent substitute for green-meat."

Sweedish turnips and mangel wurzel will likewise be found to be very convertible for such purposes. Some horses, at first, may appear not to like the flavour of these roots; but we believe there are few that may not be brought to feed either on one or the other.

CHAP. VI.—On Water.

Water fit for the drink of horses should be

"Soft, fresh, wholesome, pure, rain, river, or pond water: the last, being stagnant, should not be used unless it lie upon a clear, clay, or chalk bottom: upon such surfaces it not being likely to ferment."

In regard to quantity and times of giving drink:

"Horses of a delicate constitution, which feed sparingly, may be allowed drink almost at any time; but to *craving* horses, water should never be given either immediately before or after food, or immediately before or after their work: it should be given to them (when they remain in and are watered in the stables) just before they are stripped to be dressed, which is an hour before they feed. On the heath, while at exercise, they are to do their strongest work first, and then to be walked for an hour or more, or until they are perfectly cool, before they go to the troughs to drink."

To take off the chill or any noxious properties of hard water,

"It should be put into troughs in the yard, with some clay and chalk to soften it, and during the day the lids of the troughs left up, to expose it to the sun.

"Craving horses, and light delicate ones, should be watered often in the course of the day, the former with a view to make them drink more moderately; the latter, with a view to induce them to drink more liberally. There are two reasons why a craving horse drinks abundantly; one is, that the greater quantity of food he consumes requires it; the other, because he is mostly in strong work, and often sweating. Such a horse (to break the habit) may (in the *early* stage of his condition) be frequently watered, or even have water kept by him in a box: it is only to let him be at walking exercise for a longer period before he takes his gallop, and not to let his gallop be quite so severe."

It may not be a fact universally known, or, if known, it is one not universally acted upon, that a horse who has an opportunity of drinking at pleasure, will consume less water in the course of the four-and-twenty hours than he would were he watered in the usual manner, and suffered to take his fill at each offering. We have in our possession a memorandum of an experiment of this kind made on two horses who were standing in a stable, the mangers of which were provided with leaden chambers for the purpose of holding water, the fluid being removable from them by a wooden plug through the bottom of the chamber. By accurate admeasurement, and a pretty uniform regulation of work and food, and other circumstances, it was found that each horse, on an average, drank less, by a gallon per day, while he had liberty to drink as he chose, than while his drink was intervalled by the groom.

"Light delicate horses may be coaxed to drink sometimes by throwing some bran or oatmeal into their water; or letting the pail stand before them while they are being dressed in the stable."

Mr. D. informs us, that "the remedy generally had recourse to" for diabetes, is that of *mixing lime in the water*.

"The quantity used should be such as to produce rather a nauseous taste. Horses are shy at first; but, from the fever occasioning thirst, soon come to drink it."

Extracts from Journals, Foreign and Domestic.

On Shoeing Horses that Cut.

By M. Vatel.

The case of a horse, brought to us on account of "cutting," presents us with four points of inquiry:—1st, the place struck; 2dly, the part which strikes; 3dly, the cause of the collision; 4thly, the remedy against it.

The part or place which is cut requires to be noted particularly; because, commonly, it serves to explain the cause of the cutting, and sometimes points out to us the part that does the mischief. Most horses cut upon the fetlock; some upon the knee or cannon; others, again, upon the coronet, or even upon the side of the hoof.

So long as the hair upon the fetlock is not abraded, and no wound exists, the animal is said merely to "brush." This is not so bad a fault as contusion resulting from a repetition of blows, and which amounts to *cutting*. The former is ordinarily the effect of *relative debility*, arising from age, season, or work; or else of the nature of the ground the animal goes upon; or it may result from shoeing. The latter may likewise proceed from such causes; but more commonly it is the product either of *absolute debility* or of ill conformation.

A horse that strikes his fetlock may do so either with the side of the foot or the part posterior to it. In the former case, the animal may stand straight upon his legs, and the fault result from weakness, relative or absolute, or from the nature of the ground, or from bad shoeing: in the latter, the accident is uniformly the effect of mal-position, which may be either *relative* or *absolute**. The horse that "speedy-cuts" (either at the knee or cannon), does it from lifting up his legs too high, and at the time turning the foot inwards: it is a fault always referable to the improper direction taken by the limb in action. Lastly, a horse that strikes the coronet or hoof, does it from weakness, from being over-fatigued, or else altogether worked up.

2. To discover the part of the foot which is doing the mischief is very often no less than to find out the remedy against the recurrence of it. Examine the animal attentively in a state of

* Mal-position (*le defaut d' aplomb*) may be *relative*, in regard to the unnatural bearing given to the hoof by the smith, in paring the foot, or by the shoe which he has put on; or it may be *absolute*, in arising from mal-conformation, either innate or acquired.

rest. Should he prove straight made, and appear to cut from weakness, or from going upon dry hard roads, it is commonly the branch of the shoe, which is in fault. The same thing may happen where the outer quarter of the foot is too low, either naturally so, or the effect of bad shoeing. Horses that turn their toes outward, cut with the heel of the shoe, while those that point the toe inward, cut with the front. To determine the precise place which strikes the other limb, the foot may be covered with dirt or some coloured greasy application, before the animal is put into action, which will, in course, afterwards speedily become rubbed off at the place which does the mischief.

3. The causes of cutting are numerous; and by them it is principally that the remedy must be determined.

Shoeing cannot be considered to be the only remedy: in some cases it is but an auxiliary to other means, and it is from having placed more reliance upon it than it is entitled to, that we have occasionally augmented the malady we intended to remove.

Young horses, well made, and perfectly straight upon their legs, unused to labour, or during or recently after some indisposition, soon in travelling become weary and tired, and then begin to hit their legs together: such require nothing more than repose, and restoration of health and condition. Shoeing may be brought in to our aid on some such occasions as these; but in general it is a bad plan to alter the position of the limbs of young horses by thick or thin sided shoes, or any other means. Dealers who travel such horses prefer *boots*, and do so with much reason.

Indolent, or old and battered horses, or such as are weak in their loins, or unsteady in their gait, prove difficult subjects to prevent from cutting. The veritable cause of the evil being, in most of these cases, out of our reach, shoeing becomes our only resource, and but too often a fruitless one. However, we shall occasionally succeed by preserving the inner quarter of the hoof higher than the external; and putting on a shoe the inner branch of which is thicker than the outer, straight and short, and has only one, or at most two, nail-holes. Or, it may so turn out that the very opposite method of shoeing may be the advantageous one.

For horses that cut in consequence of the naturally defective make or position of their limbs, we have naught else to do but to endeavour to rectify this deviation; in which attempts we must bear in mind what Bourgelat tells us, in his Essay on Shoeing, viz. "That no veterinarian will ever set about to rectify deformity of limb, unless he can effect it without any disparagement to the hoof, the conservation and reparation of which part must always be his primary object and end: so that, if he cannot

remedy such imperfections but by injurious parings of the hoof, or through suffering parts of it to grow which ought to be removed, he will relinquish the attempt altogether ; at least, he will only be justified in prosecuting it so far as he can find expedients in altering the form or substance of the shoe. Not only, however, is it his duty to examine if the imperfections of the limbs so far correspond with those of the feet that both admit of the same remedy, but also to observe whether, employing means to rectify some deformity in the superior joints, which are operating, in spite of him, more upon the joints below, he is not doing more harm to the parts generally than good, and at the same time running the risk of ruining the animal altogether at so tender an age ."

Recueil de Med. Vet.

Beasts of Labour among the Romans.

These were chiefly oxen, sometimes the ass and mule for burdens, but rarely the horse. The respect in which the ox was held among the Egyptians, Jews, and Greeks, was continued among the Romans; he was considered the companion of the husbandman; and almost all their writers record an instance of a man having been indicted and condemned for killing one to gratify a wanton boy who longed for a dish of tripe.

In breeding both horses and cows, the form of the female was chiefly attended to, and was thought to have the greatest influence on the symmetry of the offspring.

They were so anxious to have their oxen properly trained that they commenced their education when calves. "Calves," say Virgil, "which you intend for labour, should be instructed while their youthful minds are tractable; first encircle their necks with wide wreaths of tender twigs, and afterwards put real collars upon them." Before being yoked, they were tied for a few days between two stakes, and then put into the plough along with a veteran, or, if refractory, between two. Some oxen, Columella observes, are disposed to lie down in the plough, and stripes will be applied in vain ; but when they do this, he advises the ploughman to bind their feet so as to prevent them from rising, walking, or feeding ; and hunger will soon effectually cure them. Both in the cart and plough they were yoked in pairs, and were carefully matched, that the stronger might not overwork the weaker. They were yoked either by the horns or neck ; but the latter was greatly preferred; the former, according to Columella, being condemned by almost all who have written on husbandry. From a remark of Homer, "that from around the roots of the oxen's horns

much sweat breaks forth," it appears to have been customary in Greece, in his time, to yoke them by the horns. When in the plough, the Roman farmers were careful not to overwork them. Their furrows were short, 120 feet being the length of the breaks into which the land was divided; and it was thought too severe for them to pull hard, without resting, a greater distance than this. At the end of each furrow they were allowed to halt a little, when the ploughman lifted forward their yokes that their necks might cool. After they are unyoked he is enjoined to rub well their necks and backs, to pour wine into their mouths if they are warm, to give them no food till they cease from sweating, and then only in small portions, and afterwards to lead them to the water, and encourage them to drink by whistling.

In purchasing working oxen, the farmer is directed to choose such as have "spacious horns, a broad forehead, wide nostrils, a broad chest, and thick dewlaps." The hair of their cattle, they observe, should be short and thick, the skin very soft to the touch, and the body in general compact and square. The particular parts they describe with great minuteness, and generally in such terms as would be approved of by experienced breeders in modern times, making allowance for the different properties which are admired in an ox which is to work, and in one which is to be fed. All their authors concur in advising the farmer to rear at home, if possible, all the cattle he requires, or to be very careful in choosing them from a soil and climate similar to that on which they are to work.

Asses and mules were also used, though less frequently, in agricultural labour. The ass was chiefly employed in carrying burdens, in the mill, and occasionally in the plough, where the land is light. Mules are recommended both for the road and the plough, where the land is not stiff, and when their price is not too high. Horses were scarcely, if at all, used in Roman agriculture; but they were reared by many farmers for the saddle, for the chase, or for war.

Quarterly Journal of Agriculture.

On the Sociality of Brutes.

There is a wonderful spirit of sociality in the brute creation, independent of sexual attachment; the congregating of gregarious birds in the winter is a remarkable instance. Many horses, though quiet with company, will not stay one moment in a field by themselves; the strongest fences cannot restrain them. My neighbour's horse will not only not stay by himself abroad, but

he will not bear to be left alone in a strange stable, without discovering the utmost impatience, and endeavouring to break the rack and manger with his fore-feet. He has been known to leap out at a stable window, through which dung was thrown, after company, and yet in other respects is remarkably quiet. Oxen and cows will not fatten by themselves, but will neglect the finest pasture that is not recommended by society. It would be needless to instance sheep, which constantly flock together. But this propensity seems not to be confined to animals of the same species, for we know a doe, still alive, that was brought up from a fawn with a dairy of cows; with them goes a-field, and with them it returns to the yard. The dogs of the house take no notice of this deer, being used to her; but, if strange dogs come by, a chase ensues; while the master smiles to see his favourite securely leading her pursuers over hedge, or gate, or stile, till she returns to the cows, who, with fierce lowings and menacing horns, drive the assailants quite out of the pasture. Even great disparity of kind and size does not always prevent social advance and mutual fellowship; for a very intelligent and observant person has assured me that in the former part of his life, keeping but one horse, he happened also on a time to have a solitary hen. These two incongruous animals spent much of their time together in a lonely orchard, where they saw no creature but each other. By degrees an apparent regard began to take place between these two sequestered individuals. The fowl would approach the quadruped with notes of complacency, rubbing herself gently against his legs; while the horse would look down with satisfaction, and move with the greatest caution and circumspection, lest he should trample on his diminutive companion. Thus, by mutual good offices, each seemed to console the vacant hours of the other.—*White's Natural History of Selbourne.*

Experiments on producing and destroying Smut in Wheat.

By Mr. S. Taylor, Jun.

1. Wheat merely put in a bag where smutted wheat had been.

Old wheat	1 in 30 smutted
New Kentish red, kiln-dried	1 in 20 ditto
Yellow Lammas ditto	1 in 3 ditto
Spring wheat, having a small quantity of smut-powder shaken amongst it, more than	1 in 2 ditto

2. Wheat when moistened, rubbed with smut powder.

Old red wheat	1 in 7 smutted
New ditto	1 in 6 ditto
Ditto, kiln-dried	1 in 8 ditto
White wheat, ditto	1 in 3 ditto
Yellow Lammas, ditto	1 in 7 ditto
Spring wheat, ditto	8 in 10 ditto

3. Treated as in the last experiment, but washed, previous to sowing, in a solution of vitriol and chamber-lye.

Old wheat	1 in 2000 smutted
New wheat	clean
Ditto, kiln-dried	clean
White wheat, ditto	clean
Yellow Lammas, ditto	3 in 2000 smutted.

Farmer's Journal.

On imparting Durability to Timber.

Some remarkable facts respecting the durability that may be given to timber, by artificial means, have been observed at Closeburn. The proprietor of that estate has for thirty years been in the constant practice of soaking all fir and larch timber, after it is sawed into plank, in a pond or cistern of water strongly impregnated with lime. In consequence of this soaking, the saccharine matter in the wood, on which the worm is believed to live, is altogether changed or completely destroyed. Scotch fir-wood employed in roofing houses and other in-door work, treated in this manner, has stood in such situations for thirty years sound, without the vestige of a worm. In a very few years fir timber so employed, without such preparation, would be eaten through by that insect. It might, perhaps, be advisable, in all timber used for ship-building, to soak it for some days in lime-water.

Edinburgh New Philosophical Journal.

On the Gases contained in Cattle inflated by feeding too freely on Green Food.

In the "Bulletin de Pharmacie," it is stated that this gas, when analysed, yielded sulphuretted hydrogen 80 parts, carbonated hydrogen 15, and carbonic acid 5.

According to a recent analysis by Mr. Plugh, it contained three-fifths of carbonic acid, and two-fifths of carbonic oxide gas;

and, in another instance, four-fifths of carbonic oxide, and one fifth of carbonic acid gas. The gas is, therefore, either of very different kinds in different cases, or there is need for more accurate analysis.

Edinburgh Journal of Science.

Scientific Treatment of Constipation in Cattle.

A pupil of Mr. Dick was called to a poor ox labouring under constipation of the bowels. The disease proved obstinate, resisting every remedy adopted, and the case was abandoned as utterly hopeless. At this stage of the business, the old-established leech of the district stepped in, and confidently engaged to set matters to rights. He commenced with no less active a remedy than a *lively trout*, transferred from the river to the stomach of the patient, under the conviction, no doubt, that his agent would thread its way through all the mazes of the intestine, and ascribing the failure of so notable a dose to the *previous mismanagement* of the Edinburgh student.—*Quarterly Journal of Agriculture.*

On the Loss of Weight of Butcher-meat in Cooking.

			lb.	oz.
Four lbs. of Beef during	boiling, lose	. . .	1	0
Ditto ditto	roasting, lose	. . .	1	5
Ditto ditto	baking, lose	. . .	1	3
Four lbs. of Mutton during	boiling, lose	. . .	0	14
Ditto ditto	roasting, lose	. . .	1	6
Ditto ditto	baking, lose	. . .	1	4

It is to be recollected that little or none of the apparent loss, either of the beef or mutton, in *boiling*, need be actually lost. Although the above calculation throws some very important light on the œconomy of the table, the numbers can only be regarded as approximations to the truth; for the absolute loss in any one case will depend on the quality of the meat, the degree to which it is cooked, and various other circumstances.

Journ. des Connaiss. Usuelles.

On the Application of Vinegar to Cattle inflated by Excess of green Food.

It is found that the gastric tympany, or the inflation which sometimes takes place in the stomachs of horses, cows, or sheep, in consequence of an excess of green food, and of the gas thereby produced, and which cannot escape, may be frequently relieved by vinegar, which puts an end to the production of gas.

Quarterly Journal of Agriculture.

Professional Obituary.

THE "fell tyrant," death, has within the past month struck out of our list two members of the profession, both of them veterinary surgeons in the army:—Mr. BLOXAM, and Mr. GANLEY.

Being, as we may say, one of the "fathers" of the infant profession, the lamented Mr. Bloxam was known, by name, to almost all, and with very many of us personally acquainted: indeed, the very name of *Bloxam* is one which has now come before the public with some share of interest and importance, from its connection with the family of the late President of the Royal Academy.

Mr. SAMUEL BLOXAM, the subject of the present brief notice, was brother to Dr. Bloxam of Rugby; he had besides two other brothers, both now living. With an excellent education, Mr. Bloxam entered as a pupil at the Veterinary College, in the year 1793; and after obtaining his diploma, entered the First Regiment of Life Guards, in which he served the lengthened period of thirty years; and in the year 1827 retired: an occasion on which the officers belonging to the regiment presented him with a handsome gold snuff-box, with an inscription engraven upon the lid expressive of their great respect and esteem for him. On his retirement, he went to reside at Windsor, there to enjoy his well-merited "otium cum dignitate:" scarcely, however, had he set himself down in "peace and quietude," but he was called to "another and a better world." He was an excellent classical scholar, and in pursuit of classical lore spent the most valuable hours of his life; a hobby which, on our part, is much to be regretted, as it bore him away from professional research; otherwise we might now have had the gratifying duty of recording his works as a veterinary author. We do not remember ever to have seen his name in print but once as a veterinary writer; and on that occasion, we were more than once subsequently assured by himself, that it had appeared without his consent, and extremely against his inclination; indeed, he did at one time contemplate rectifying the error in the eye of the public. Such, however, was his diffidence, or rather his modesty and aversion to public notice, that he at length relinquished the affair. His courteous and gentlemanly address, his urbanity of manners, and his soft and elegant and amusing conversation, will be long remembered by those who have been in the habit of meeting Mr. Bloxam at the festive board; and by none longer remem-

bered or more regretted than by the female circle of his acquaintance.

Mr. GANLEY received his education, we have heard him say, at the Royal Veterinary School at Alfort, and subsequently settled in Dublin. Three or four years ago, he came over here, and entered as a pupil at our own Veterinary College; and having received his diploma, was appointed to the Eleventh Light Dragoons. The regiment is at present stationed at Cawnpore, Bengal, India; and on his road thither, to join his corps, he was taken ill, and died.

TO CORRESPONDENTS.

OUR respected Correspondent at Cork will soon find that his recommendation has not been forgotten; but we certainly do not attach the importance to it which he does. It is an attempted revival of that which was long ago fairly tried, and which palpably failed.

Messrs. HARRIS, KARKEEK, KERR, JOHN PERCIVALL, and SYMONDS, in our next. The portion of our Work devoted to Correspondents must always be with the printer early, on the 20th.

The Veterinary Students' dinner taking place so late in the month, our plan has been disarranged; and rather than omit the valuable contributions of our friends, we have left out our article on the Veterinary Materia Medica. Our Readers shall have a double dose in our next Number.

J. C. will, we think, see the propriety of not inserting his letter at the present moment. What we meant to say was, that for all the knowledge of anatomy which the Veterinary Pupils had not acquired by their own hard and unassisted dissection, they were indebted to Mr. VINES. We know that many of them are excellent anatomists, and have worked well for it; and we know not what would have become of them if they had not.

Mr. PROCTOR's favour is just received.

THE

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ANATOMY OF THE HORSE.

[Continued from page 66.]

4.—INFERIOR CERVICAL REGION.

STERNO-MAXILLARIS.

Situation.—Inferior part of the neck.

Form.—Elongated; cylindroid: flattened above and below.

Attachment.—Posteriorly, to the cariniform cartilage of the sternum; anteriorly, to the angle of the lower jaw.

Relations.—Externally, with the cellular faschia of the neck, panniculus and levator humeri; internally, with the next mnscle, trachea, and carotid artery; along its superior margin, with the jugular vein; along its inferior border (the posterior half) with its fellow; from which it gradually diverges to the head, leaving the trachea and next muscle exposed in the interspace formed by the divergence. Its tendon passes between the parotid and submaxillary glands.

Direction.—Longitudinal: curving with the neck.

Structure.—Tendinous and fleshy at the sternal end, and intimately united with its fellow. About three-fourths of the extent of the neck upwards, it terminates in a flat tendon.

Action.—To inflex the head towards the breast. If one muscle act alone, it will, at the time of this inflection, incline the head to one side. The pair will also assist in opening the mouth.

STERNO-THYRO-HYOIDEUS { *Sterno-hyoideus.* / *Sterno-thyroideus.*

Situation.—Above the preceding muscle.

Form.—Elongated, slender, cylindroid; flattened above and below; trigastric; but unequal in its divisions.

Attachment.—Posteriorly, to the cariniform cartilage of the sternum, above the preceding muscle: anteriorly, to the spur

process of the os hyoides: also, by a detached slender tendon, to the lower border of the thyroid cartilage.

Relations.—Inferiorly, with the sterno-maxillaris; superiorly, with the trachea, and on the left side with the œsophagus likewise: along its outer border, with the recurrrent nerve; along its inner or mesian line, with its fellow.

Structure.—Sternal end, tendinous and fleshy, and united in one belly; at the other end, there are two fleshy bellies; and the three are connected opposite to the trachea, about the middle of the neck, by an intermediate, short, and slender tendon.

Action.—To draw the os hyoides, and along with it the larynx, downwards and backwards.

SUBSCAPULO-HYOIDEUS.

Situation.—Continued from the levator humeri, and spread over the antero-superior parts of the neck.

Form.—A broad, thin, elongated band; thicker and broader anteriorly than posteriorly.

Attachment.—In connection with the levator humeri, to the inner surface of the scapula; anteriorly, to the middle of the body of the os hyoides.

Relations.—Its course lies between the carotid artery and the jugular vein, between which it forms a fleshy partition; having on its outer side, the sterno-maxillaris; on its inner, the sterno-thyro-hyoideus; and at its anterior termination, becoming embedded between the submaxillary glands.

Structure.—The scapular end consists of a thin flattened tendon: the remaining part is fleshy. It forms altogether a sort of fleshy involucrum for the next muscle.

Action.—It will draw the os hyoides downwards and backwards.

SCALENUS.—*Costo-cervicalis.*

Situation.—Postero-inferior part of the neck.

Form.—Pyramidal: base cut slantwise and turned downwards.

Attachment.—Posteriorly, to the middle of the first rib; anteriorly, to the bodies and transverse processes of the 5th and 6th cervical vertebræ.

Relations.—Along its upper margin, with the transversalis colli; along its lower, with the sterno-maxillaris: on the outer side, with the levator humeri; on the inner, with the trachea; and on the left side also with the œsophagus. In the interspace between one scalenus and the other, on the carotid artery, par

vagum, great sympathetic nerve, and, lower down, the jugular vein. The cervical nerves going to form the axillary plexus cross the scalenus in their descent; and the axillary artery and vein turn round the first rib immediately beneath its postero-inferior extremity.

Structure.—Constituted of two or three cylindroid divisions lying one upon the other: its base is tendinous as well as fleshy; its cervical attachments are mostly fleshy.

Action.—It will aid in the depression of the neck; and may also have some effect, the neck being fixed, in inspiration, by having a tendency to draw the rib forwards.

LONGUS COLLI.—*Subdorso-atloideus.*

Structure.—Deep-seated: extending along the inferior part of the neck, and thence for some distance along the back.

Form.—Complicated: made up of many semi-cylindroid fasciculi running obliquely one into the other: altogether, broad in the middle and tapering at either extremity.

Attachment.—Posteriorly, to the bodies of the six anterior-most dorsal vertebræ: anteriorly, to the bodies, transverse processes and inferior spines, of all the cervical vertebræ, excepting those of the first; it being fixed by a strong tendon to the body *only* of the atlas.

Relations.—On the outer side it has, posteriorly, the scalenus; anteriorly, the rectus anticus major: below it, lies the trachea; above it, the vertebræ.

Structure.—The dorsal portion is pretty uniform, and is principally fleshy; the cervical part is convoluted, and the fibres are intersected with alternate layers of tendon. The anterior end is entirely tendinous; the other part has also a tendon fixing it to the 6th cervical vertebra. The fasciculi run from one cervical tranverse process to the other.

Action.—Its many and extensive attachments, and the proximity of the points on which it acts, render it a muscle of considerable power and effect in the flexion of the neck: the rainbow curve, and the constrained inflexion of the head towards the breast, are chiefly attributable to its full and forcible contractions.

5.—INFERIOR CERVICO-OCCIPITAL REGION.

RECTUS CAPITIS ANTICUS MAJOR.—*Trachelo-suboccipitalis.*

Situation.—Deep-seated: antero-lateral part of the neck.

Form.—Pyramidal: base turned forwards.

Attachment.—Posteriorly, to the transverse processes of the

2d, 3d, 4th, 5th, and 6th cervical vertebræ: anteriorly, to the cuneiform process of the occipital bone.

Relations.—Superiorly, with the vertebræ, longus colli, and following muscle; inferiorly, with the œsophagus on the *left* side, and with the trachea and larynx on the *right*, and also with the membrane of the fauces. The carotid artery runs along its inferior border.

Structure.—Posteriorly, consisting of slender fleshy fasciculi, including two or three long slips of tendon: anteriorly, it is fleshy, intersected by a broad flat tendon.

Action.—To bend the head: one acting only, will incline it, at the time of depression, to one side.

RECTUS CAPITIS ANTICUS MINOR.—*Atloido-suboccipitalis.*

Situation.—Deep-seated: at the back of the cavity of the fauces.

Form.—Short, slender, cylindroid.

Attachment.—Posteriorly, lower part of the body of the atlas: anteriorly, the same as the foregoing muscle.

Relations.—Inferiorly, with the preceding muscle; superiorly, with the capsular ligament of the occipital joint.

Structure.—Pale and entirely fleshy.

Action.—To assist the major.

OBLIQUUS CAPITIS ANTICUS.—*Atloido-styloideus.*

Situation.—To one side, at the back of the fauces.

Attachment.—Posteriorly, close to the rectus minor, to the body of the atlas: anteriorly, to the postero-inferior part of the coronoid process of the occipital bone.

Relations.—Above, with the occipital articulation; below and to the inner side, with the rectus major anticus; to the outer side, with the parotid gland.

Action.—The same as that of the former muscle.

[To be continued.]

Communications and Cases.

Ars veterinaria post medicinam secunda est.—VEGETIUS.

ON THE ORIGIN OF THE HORSE.

By Mr. KARKEEK, *Truro.*

To the Editors of "THE VETERINARIAN."

GENTLEMEN,—We should not again have intruded the subject of the "Origin of the Horse" on your valuable publication, had it not been for the different view adopted by the author of the "Farmers' Series," which you so kindly pointed out to your readers, in the last number of the "VETERINARIAN."

Without intending to enter into the depths of controversy on the subject (for we candidly confess, that, had we been aware of the existence of such a publication, our humble sketch on breeding, which was principally composed during our pupilage at the Veterinary College, would never have appeared in the literary horizon with so formidable a rival), we cannot help endeavouring to substantiate our former opinion, *i. e.*, that Arabia possessed horses in great numbers at a very early period of the world, and has, we consider, stronger claims to be entitled the primeval seat of those animals than any other country. To do this, we must be excused for entering into a short detail of the different circumstances connected with the history of Arabia, and likewise for pointing out the different passages in history which the author of the "Farmers' Series" has misapplied. He commenced with the Greek history of the birth of the horse:—

> "When Neptune* his huge trident hurl'd
> Against the sounding beach, the stroke
> Transfix'd the globe, and open broke
> The central earth, whence swift as light
> Forth rush'd the first-born horse."

* The invention of bridles is likewise ascribed to Neptune by Statius:—

> "——— Neptunus in equo, si certa priorum
> Fama patet, primus teneris læsisse lupatis
> Ora, et littoreo domuisse in pulvere fertur."

This appears a gift of the comic Latin poet: the Greeks having given Neptune the credit of manufacturing the first horse, the poet naturally enough considered the Creator of the animal to be the first who subdued him for the different purposes of mankind.

The mythology as well as the rites of Greece were borrowed from the ancient histories of the Egyptians, which were transmitted to posterity in hieroglyphical representations; these, by length of time, became obscure, and the sign was taken for the reality. The fable in question was undoubtedly taken from some Egyptian hieroglyphic, which, like other memorials of Egyptian learning, are lost, and nothing remains but fabulous stories derived from the Greek writers.

The horse of Neptune refers to the ark of Noah: "by horses," says Artemidorus, "the poets mean ships, there being a strict analogy between the poetical horse on land and a real ship in the sea."

Bryant, in his Ancient Mythology, says, "that the horse of Neptune, which, in the contest with Minerva, περι χωρας, he was said to have produced, was a mistaken emblem, and that the ancients, in the original history, did not refer to that animal: What the Ιππος, Hippos, alluded to in the early mythology, was certainly a float or ship, the same as the ceto; for, in the first place, the ceto was denominated Ιππον, τον μεγαν θαλασσιον ιχθυν. By Hippos is meant that huge fish of the ocean; *id est*, the ceto, or whale." The learned author then proves that the goddess Ιττα, represented as a female, is the same as Hippos, and relates to the same history, being made the nurse or foster-mother of the world; consequently Hippa, εις ην προσεισιν Διονυσος, was certainly the ark into which the patriarch entered, and from which he was afterwards released to enjoy a new life and another world.

Thus far we have endeavoured to explain the Greek tradition of the birth of the horse: it appears to be originally derived from the Egyptians by the Greeks, who, ignorant of the true meaning, have added fable to mythology, and extravagance to allegory.

The author of the "Farmers' Series," likewise, concludes that Arabia was not the native place of the horse, on account of Solomon's importing a *few horses* from Egypt. If we may also be allowed to use scriptural authority, we flatter ourselves that we can prove that Solomon obtained horses from other places besides Egypt.

In 1 *Kings*, chap. x, we find the following:—

> "And all the earth sought Solomon to hear his wisdom which God had put in his heart. And they brought every man his presents, vessels of silver, and vessels of gold, and garments, and armour, and spices, *Horses* and Mules, a rate year by year."

These verses certainly imply that Solomon obtained his horses from the surrounding countries.

In 2 *Chronicles*, chap. ix, we find the following verse; the one, we believe, on which the author decides that Solomon obtained his horses from Egypt alone:—

"And they brought unto Solomon horses out of Egypt, and *out of all lands*."

It requires very little sagacity to interpret this text. It cannot be understood to mean what the author wishes to infer, but plainly shews that this was thought an uncommon occurrence, which is the reason why Egypt was particularized in preference to *other lands*. Until Solomon's reign, the Hebrews had been continually at war, and were thereby prevented from cultivating foreign connections; but, by Solomon's alliance with an Egyptian princess, a free intercourse with Egypt was formed. Egyptian luxuries were then introduced:—

"And a chariot came up and went out of Egypt for six hundred shekels of silver, and an horse for an hundred and fifty*."

The sacred historian appears to take particular notice of this, as an extraordinary circumstance, and as an extraordinary price for a chariot and a horse, at that time.

Chariots were made undoubtedly by the Jews, and their neighbours the Philistines; but those from Egypt were of a more magnificent appearance, and the horses probably of a larger size than were found either in Palestine or in Arabia; and thereby more calculated for drawing those costly and superb chariots, which were only used by Solomon, and the kings of the Hittites and of Syria.

It is most natural to suppose, that the Hebrews were supplied, in Solomon's reign, with a part of their horses from their neighbours the Philistines, who possessed horses and chariots in great numbers; and we also consider that Arabia had some claims to have made *one* among the many lands which supplied them with those useful animals.

The Arabs are the most ancient people in the world, having inhabited the country they at present possess from the deluge. The little that can be gathered respecting the history of the earliest periods of Arabia, shews her to have been a rich and powerful country, particularly in the time of the ancient Egyptians; and many circumstances concur to prove, that, in remote times, the Arabs acted an important part on the theatre of human affairs. "There can be no doubt of their having conquered Egypt at a time previous to the Grecian history: what the Greek writers say of the shepherd kings of Egypt, can be referred

* 1 Kings, chap. x.

to none but Arabs*." It appears probable that many of the circumjacent countries received their first supplies of population from Arabia; even the Jews themselves are supposed by some authors to have originally descended from some branch of the far spread Arab tribes: at all events, they are undoubtedly from the same stock, and may be considered as collateral branches.

Most of the countries so frequently mentioned in the history of the Jews were Arab tribes: the Edomites and Amalekites inhabited a part of Arabia Petræa; they are described in the Mosaic writing as two powerful nations: the former nation levied an immense army to prevent the passage of the Israelites through their country. The latter are described, by Balaam, as the "first or beginning of nations," possessing cattle and flocks in abundance. The Uzzites, Moabites, Ammonites, Midianites, &c. &c. were nations inhabiting Arabia Desserta.

It would occupy too much space in your publication to take particular notice of the different passages which occur respecting the Arabians in the sacred writings; to be brief, they are described as powerful nations, possessing cattle of every description, "and horses and chariots *very many*."

The word *cattle*†, which occurs so frequently in different passages in sacred writ, comprehends all four-footed beasts, but sometimes only those which are domesticated, such as the horse, ass, camel, ox, dog, &c. Horses do not appear to have been used but for purposes of war: for common travelling asses were chiefly employed. The Eastern asses were more spirited and tractable than ours, and on them did the principal great men, as Abraham, Moses, Abdon, and David's family, ride. On asses did the Princes of Israel, under Pekah, generously send back the Jewish prisoners that were unable to travel, nor had the captives, on their return from Babylon, but few beasts of burden, besides 6720 asses. This did not proceed from any scarcity of horses, but entirely on account of their hoofs. Horseshoes were not known in those days, and the wear and tear of their feet, on long journies, rendered them altogether nseless. "Then were the horses' hoofs broken by the prancings of the mighty ones."—(*Judges*, chap. v.) For this reason, they used their utmost means to render their hoofs as hard and durable as possible; hence the prophet Isaiah says, "The hoofs of their horses should be counted like flints." This circumstance, together with the prohibition of the Almighty, who forbade the Hebrews to multiply horses, sufficiently accounts for their being mentioned so

* Niebhur's Travels in Arabia.

† Wood, Brown, and Calmet, authorise this assertion.

seldom in the sacred writings, and to their being included among other beasts indiscriminately.

The author of the "Farmer's Series" was well aware that the climate and soil of Egypt were ill calculated for breeding horses; he therefore considers it probable that the Egyptians obtained them from Africa. Pennant, in his "Zoology," observes, that, with some authors, Ethiopia has the credit of having originally furnished Arabia with its fine breed of horses, but "we," he says, "believe the reverse: they were introduced into that empire by the Arabian princes whose lineage to this day fills the throne."

In tracing the history of the Arabs, subsequently to the era of the Hegira, or flight of Mahomet, we still find them, as they are described in Isaiah xxii, dwelling in tents, without any settled abode; still enjoying their independence and freedom, the memory of which is the firmest pledge of its perpetuity, and the theme and praise of every nation.

The author of the "Farmer's Series" has likewise stated, that, "in the seventh century, the Arabs had few horses;" and that "when Mahomet attacked the Koreish, near Mecca, he had but *two in his whole army*." This assertion is perfectly correct, and gives us a tolerably correct idea of the poverty of the prophet at that period. The author has shewn great ingenuity in bringing forward this circumstance to substantiate his opinions; but how far he was justified in drawing his inferences, we leave others to determine, after reading the whole of the passage.

"The sacred band of Mahomet, "says Gibbon, "was formed of 313 moslems, of whom *seventy-seven were fugitives*, and the rest auxiliaries; they mounted, by turns, a train of seventy camels (the camels of Yathreb were formidable in war); but such was the *poverty of his disciples*, that only two could appear on horseback in the field*."

This is the WHOLE ARMY of Mahomet, as described in the "Farmer's Series." The author has thus singled out a circumstance which occurred to Mahomet at a time when he was opposed by nearly every one of his relations, and at war with every individual of his tribe† (relations excepted); and has formed his opinion of the number of horses which a country contained, extending between the 12th and 35th degrees of north latitude,

* Al Jannabi (apud Gagnier) tom. ii, p. 9, allows him seventy or eighty horses; and on two other occasions prior to the battle of Ohud, he enlists a body of thirty (p. 10), and of 500 (p. 60) troopers.

† Mahomet sprung from the Koreish tribe.

and the 36th and 61st of east longitude, by the rabble mob which followed the early fortunes of the prophet for the sake of spoil. Either the gentleman has misunderstood his authorities, or there exists a great difference in the opinion of the various authors who have written on the subject.

"Non nostrum *tantas* componere lites!"—VIRGIL.

"Who shall decide when *doctors* disagree?"—POPE.

It was not until the ninth year of the Hegira that the different tribes who had hitherto been waiting the issue of the war between Mahomet and the Koreish joined him: some time after this, we find him in the plenitude of his power; and in the details of the different wars in which he engaged, we find that he was assisted by *numerous bodies of horse.*

There is a curious narrative related in Gibbon of the private arsenal of the prophet, consisting of "nine swords, three lances, seven pikes, a quiver and three bows, seven cuirasses, three shields, and two helmets; with a large white standard, a black banner, and twenty horses." After the prophet's death, when the different tribes were united at the taking of Damascus, and in the war with the Persians, Syrians, Egyptians, Spaniards, &c. &c. the Moslem army, besides infantry and camels, consisted, at one time, of 15,000, at another 20,000, and at another 25,000 horse.

It would be tedious to follow the different details of the numerous battles in which they engaged: sufficient has already been produced to convince every impartial person, that the Arabs, in the seventh century, possessed horses in immense numbers; and, to prove that their breed was thought as highly of at that period by the neighbouring countries as it is at this present time, in the 54th year of the Hegira, in a treaty concluded between the Moslems and the Turks, the Arabs were allowed to keep the territories they had gained, in consideration of paying 3000 pounds weight of gold, fifty slaves, and as many choice horses.

From what has been stated, we consider that we were fully justified, in the last number of THE VETERINARIAN, in concluding that Arabia possessed horses at a very early period of the world, on the authority of the Book of Job; a work composed by a person in a remote age, in the same country, and in the Arabic language; who, in describing the natural history of the deserts of Arabia, shews that he was not only well acquainted with the qualifications of the horse for the purposes of war,

"How firm the manag'd war horse keeps his ground,
Nor breaks his order, though the trumpets sound;
With fearless eye the glitt'ring host surveys,
And glares directly at the helmet's blaze:
The master's word, the laws of war he knows,
And when to stop, and when to charge the foes*;"

but likewise for the more noble and generous pleasures of the chase, from his comparing him with the ostrich, or camel-bird, as the Arabs call it: "What time she lifteth herself on high" (or as it may otherwise be translated, when she raiseth herself up to run away, viz. from her pursuers) "she scorneth (or laughs at) the horse and his rider†."

We are not singular in the opinion we have formed. Almost every traveller or naturalist who has written on the subject, gives Arabia the credit of being the genuine and original country of the horse. "It is a climate," says Gibbon "the most propitious, not indeed to the size, but to the spirit and swiftness of that generous animal." Buffon, D'Arvieux, and Niebuhr, coincide in this opinion: the last named author, the most judicious of any of our Syrian travellers, says "some (animals) appear to be originally natives of the country (Arabia), for they are not common through the other regions of the East; they retain their primary instincts in higher perfection, and are more eminently distinguished by strength and beauty here than elsewhere; such are the horse, the ass, and the camel."

We have described Arabia as once being a powerful nation,

"When hearts within thy valleys bred
The fiery souls that might have led
Thy sons to deeds sublime."

Many circumstances might be related which would account for their present debasement, having always been famed for their robberies, revenge, ravages, and murders; such, to use the words of a Roman historian, "as one would neither wish his friends nor his foes:" it became the interest, therefore, of every conqueror to endeavour to root them out; and it is observable, that almost every noted conqueror pushed his conquests to their very borders, and yet left them unsubdued:—

"'Twere long to tell, and sad to trace,
Each step from splendour to ——————."

We cannot add though, with the poet, "disgrace:" for, although generations and ages have rolled away, they have never yet sub-

* Oppian's Imitation of Job's description of the horse, chap. xxxix.
† Calmet, apud xxxix, chap. Job.

mitted universally to a foreign yoke. The ancient predictions of scripture, "That the Ishmaelites should be wild men, should have their hand against every man, and every man's hand against them, and yet should dwell in the tents of their brethren," have been fulfilled among them for more than three thousand years. The same life is still uniformly followed by the roving tribes of the desert; "and in the portrait of the modern Bedouins, we may trace," says Gibbon, "the features of their ancestors, who, in the age of Moses or Mahomet, dwelt under similar tents, and conducted their *horses*, and camels, and sheep, to the same springs and the same pastures."

A CASE OF DISEASE OF THE LUNGS, COMBINED WITH DROPSY.

By Mr. KERR, *of Southampton.*

ON the 1st of January, 1830, 12 A.M. I was requested to see a favourite chesnut hack, the property of A. R. Ditton, Esq. M. P. Bugle Hall, Southampton. The subject was in full flesh, and in apparently high condition; was eighteen years old, had lived a very quiet and indolent life, and had always been highly fed. The coachman informed me that yesterday he appeared dull at exercise, and had not for the last two or three days voided his usual quantity of fæces. This induced him to take away about four quarts of blood; but the horse breaking out into a profuse perspiration, it obliged him to "pin up." This morning I find him labouring under the following extraordinary symptoms: Respiration perfectly quiet: on placing my finger on the submaxillary artery, I found an apparently empty tube, and could not detect the slightest pulsation. The horse was then moved out into the yard for the purpose of judging his strength, of which there was some prostration. On his returning to his box, I again tried the pulse, and counted, with extreme difficulty, seventy-two small weak pulsations in a minute; the Schneiderian membrane and inside of the mouth were nearly colourless, temperature of the latter healthy, as also were the extremities and surface of the body. I merely administered, aloes ʒiv, nitre ʒv, soap ʒii; and left my patient, without proceeding further for the present. In four hours I saw him again; pulse 68, with a little more strength. Wishing to detect the least alteration of symptoms, I found the respiration a little short; but, had not my attention been particularly directed to it, I should not have observed it. V.S. ℔ x. The horse became faint, and the pul-

sation at the jaw ceased: I pinned up, and administered aloes ʒii, nitre ʒiii, soap ʒii.

Jan. 2, 11 A.M.—Pulse 80, but so small as scarcely to be felt: respiration a little quick; a light blueish tint is thrown over the Schneiderian membrane, but it is not more vascular than in health; temperature of the extremities and mouth natural, but the saliva is very viscid; bowels a little relaxed; fæces very offensive: the blood that was abstracted yesterday was not buffed, but the coagulation was far from being firm: respired breath warm. I thought it advisable to remove the horse to my infirmary, his own stable being too warm: the distance was about five hundred yards. During the journey his nostrils were widely dilated, and my patient was evidently suffering great distress. In five hours I saw him: the cool box had quieted his breathing almost to a natural standard; pulse 85 in a minute, but just as small and weak; breath very offensive; the saliva like thick chalk and water. V.S. ℔ x, could not bear more; and administered aloes ʒii, nitre ʒiii, soap ʒii.

Jan. 3.—On my entering his box, he raises his head and tail, and snorts with considerable strength and animation, not, as I conceive, a horse would do under pneumonia. To an observer not accustomed to disease, nothing wrong would have been suspected; and, in confirmation of this, a man who has been accustomed to horses for the last thirty-five years, said, "Oh! there is nothing a matter with he, sir!" The respiration is positively quiet; the surface of the body and extremities of a natural heat; but the pulse at the jaw presents a remarkable appearance, as it required the most perfect silence, and the whole of my attention, to count seventy-six small, weak, irregular pulsations in a minute: I could just make them out. The conjunctiva and Schneiderian membranes not so vascular as in health: the horse is not, or ever has been from the first attack, the least "drawn up in the flank." Lies down. There is such apparent contradiction, the symptoms are bewildering: I felt myself only warranted in giving a little fever medicine.

Jan. 4.—On entering his box to-day, he raises his "ends," and snorts with animation; pulse presenting nearly the same extraordinary phenomena as yesterday. If I were to say respiration was a little quicker than natural, it is all I should be warranted in affirming: fæces soft, and very offensive; breath and saliva as yesterday. Not at all drawn up in the flank. V.S. ℔ vi; became faint; and the pulse at the jaw not perceptible to the touch: blood much buffed, but I could not help remarking that the serum was unusually yellow and opaque.—To take nitre ʒii ss morning and evening in his water.

Jan. 5, 12 A.M.—Pulse 88, just as small; the respiration is now more quick and short; temperature of the body about the same. V.S. ℔ viii; administered the alterative ball, continue the powders. 4 P.M. same day, pulse the same, 88, just as weak; other symptoms a little increased.

Jan. 6.—Pulse 65, and weak; convulsive trembling of the pectoral muscles, respiration remarkably short, and tremulous, so that I could scarcely say when he was expiring or inspiring; considerable distress of countenance; does not feed; drinks freely of the nitre and water. The bowels and kidnies being as I would wish, nothing of any consequence was done.

Jan. 7, 3 P.M.—Patient worse; pulse the same: there is no increased vascularity of the Schneiderian membrane; in fact, it is whiter than in health: respired breath still warm. On placing my hand on the near hind foot to learn its temperature, I remarked to those in the box that it was warm. A groom on the off side exclaimed that the off hind foot was cold: this was true. I examined the fore feet, the very reverse existed; the near fore foot was cold, the off fore foot warm: such was the irregularity of the circulation or nervous influence. The pulse was still at 80, yet I did not bleed! I never felt such a pulse; the artery was small, imperfectly filled, and flat: in fact, if he had been dying from internal hæmorrhage, or had had some extraordinary organic disease of his heart, the pulse could not have put on a more remarkable appearance. The animal not feeding, we endeavoured to horn down some gruel; but this produced so much agitation, that we desisted.

Jan. 8.—He is now purging violently; astringent medicines were administered effectually, and every thing was done to relieve the poor animal, but in vain: he lingered till the night of the 14th, and died apparently without a struggle.

Post-mortem Examination.—The abdomen contained about a bucket and a half of serum; the liver presented a singular appearance, was of a light clay colour, and remarkably soft and pulpy. To the admirers of baked ground-rice pudding I must apologize; but I can offer no better simile of its texture. As for the lungs, I never saw such: on drawing my hand over their surfaces, innumerable small tubercular swellings were felt, interspersed with larger hard tumours, about the size of a large walnut; these, with a great discolouration, were the most remarkable external appearances. The left lung being the most diseased, it was cut into first, which exposed most extensive suppuration throughout its whole substance; indeed, it would have been difficult to have found a square inch without pus. The right lung presented the same appearances, only in a less degree. *The pleura*

costalis was perfectly healthy! and there was not, on any one spot, the least adhesion! nor was there any serous effusion in the thoracic cavity!

Remarks.—During the two years and a half I was a pupil at the College, and the three years of my being in active practice, I never witnessed such ambiguity of symptoms in a living horse, or such unusual post-mortem appearances. You may, perhaps, think that my treatment was not sufficiently active: to this I reply, that, if I had done more, it would not have been in consequence of symptoms demanding it, but merely in the hope of "hitting the mark." There was no acute pneumonia indicated; the respiration up to the 6th, scarcely, if at all, affected; the pulse never was oppressed, full, or hard; it commenced with 72, and rose, to 110 in a minute, notwithstanding four bleedings to the utmost he could bear. To count the pulsations, I was obliged to place my finger as lightly as possible on the artery, otherwise I could not have detected it; there was scarcely any "vis a tergo:" the vessel appeared to the touch as though empty, flat—not round! No chronic suppurative process in the lungs was indicated: the animal was in full flesh, and apparently high condition, the very reverse of wasting, *nor was there any cough.* With respect to the liver, I certainly suspected, from the first, all was not right there; but still the symptoms were ambiguous: there was no yellowness of the mouth or conjunctive membranes. The fæces in the commencement were constipated, deficient in quantity, and clay-coloured. Violent diarrhœa succeeded, the excretion being horridly offensive; nor were there any strongly marked symptoms of ascites.

During a short but valuable sojourn at my friend, Mr. Movors, veterinary surgeon, I had an opportunity of seeing two cases of internal hæmorrhage arising from ruptured liver. The early part of this case presented a strong resemblance to them; indeed, I feel sure, that, had not the extensive disorganization of the lungs carried off the patient, he must have died from ruptured liver; such was the state of that organ.

A CASE OF TETANUS.

By Mr. John Percivall, *Sen. Veterinary Surgeon to the Ordnance.*

Dec. 18, 1829.—I was sent for to visit a brown horse, the property of Mr. J——, resident three miles from Woolwich. Being myself, at the time the message came, absent from home, my assistant went. He conceived that the horse's malady was

of a pulmonic nature, and, under that impression, drew blood, and administered a ball containing two scruples of hellebore, with directions to bind flannel around the animal's legs, and administer a second ball the same evening.

Next day I visited the horse myself. I then perceived signs of rigidity about the head and neck, and the tail was erect; he also moved with evident stiffness: in a word, I found it was undoubtedly a case of locked jaw. All the account of him which I could collect was, that the horse was led as usual to his master at the door, three or four days before I was called in, on which occasion the groom noticed to Mr. J—— that the animal moved with unusual sluggishness, and seemed to have a singular gait in the hind legs in particular. On this account the groom was ordered to lead him back into his stable, and take some blood; Mr. J—— conceiving that this timeful evacuation would rectify all his apparent disorder by the following day or two. On being made acquainted with the animal's hopeless condition, he wished me to take him to the infirmary; to which I objected, on account of the distance. However, his owner over-ruled this; and, accordingly, the horse was led over, and without experiencing any inconvenience or aggravation of symptoms from the journey. Indeed, neither the respiration nor the pulse seemed to have been at all hurried by the exertion, which I thought extraordinary.

At two P.M., as soon as he was lodged in his box, two drachms of hellebore, in combination with half an ounce of aloes, were given to him in a ball; and his legs, which were very cold, were blistered and bandaged with flannel; also, he was warmly clothed, and his food consisted of bran-mashes and oatmeal gruel.

3d day.—At eight o'clock, A.M., two drachms of aloes, the same quantity of opium, and one drachm of hellebore, were mixed together, and given to him; the spasm of the jaws had, however, so much increased, as to render the administration of the ball exceedingly difficult: in fact, it could only be given at last by dividing it, and making use of a stick for the purpose. In the course of the day he lay down much.

4th day.—This morning he took the same ball as yesterday, with the addition of two drachms of aloes. At night the animal was seized with a fit of irritation, sweating profusely, and foaming copiously at the mouth, probably from the effect of the large doses of hellebore.

5th day.—This morning there appeared to be some alteration for the better: though the spasms continued, still there was altogether an aspect of amelioration. His appetite has improved also. Ball continued.

In the evening, a paroxysm of the same kind as that which

he experienced yesterday returned, and lasted until death, which took place about one o'clock the succeeding morning.

The body and head were both thoroughly examined. The lungs were found reddened; but I looked upon the increase of dye as but a consequence of the accelerated pulmonary action occasioned by the fits of irritation.

No morbid appearance whatever was detected in the brain.

CASES OF HORRIBLE CRUELTY INFLICTED ON SOME HORSES.

Communicated by Mr. SYMONDS, *of Bungay.*

A Mr. Favell, farmer, Geldeston, five miles distant from Bungay, has met with a very serious loss, from the death of five valuable horses out of seven, his property, in a mysterious manner. I was called to the fourth horse on Tuesday, Dec. 8th, at three, P.M. A farrier, named Hinds, was attending, who stated that the first, a mare, seven years old, was taken ill on the Thursday morning previous, and died the next morning. The second, a mare, four years old, became ill the following Sunday night, and died on Monday at noon. The third, a bay horse, taken on Monday evening, died on Tuesday, 11 A.M. Their symptoms were similar to gripes. This last horse, with the remaining four, were bled and physicked on the day previous to his being attacked, and had taken, on the Tuesday morning, spirit of turpentine two ounces, sweet spirit of nitre one ounce, laudanum half an ounce. The treatment of the three horses consisted of bleeding, purging physic, and the abovenamed drench. He said the horses died (using his expression) with the bursting of the large vessel of the heart; and the only fact I could ascertain was, the presence of considerable effusion of blood in the abdomen of each.

My patient was attacked about three hours from the death of the third horse. He was a large well-formed animal, in good condition, and about twelve years of age. The symptoms were similar to spasmodic colic, except not rolling when down; he merely dropping on his body, then rising, looking backward to his sides, pawing violently with his fore feet, and endeavouring to strike his belly with the hind ones. Pulse 80, and weak, scarcely to be felt at the heart; breathing increased, but not laborious, and the abdomen somewhat painful to the touch, and very tense. He had been twice bled before I saw him. The medicine given on the previous day had not operated. I ordered his body to be blistered;

rowels placed in his thighs; his legs bandaged; warm gruel to be horned down; and enemas of warm water to be given.

I then attended to the remaining horses, which were all purging from physic; one of which, an aged horse, I found was suffering similar to the last-named; and he was removed to a loose place. Pulse the same as that of the other horse, but not so accelerated; breathing increased; extremities alternately hot and cold. The abdomen swollen and painful. Although apparently suffering much inward pain, he did not attempt to lie down. To the former horse, at five P.M., were given, solution of aloes two ounces, spirit of nitre one ounce and a half, laudanum one ounce, oil half a pint: to the latter, a ball composed of camphor, nitre, emetic tartar, and digitalis. At 10 P.M. this ball was repeated to each horse; plenty of warm gruel was administered to them, and both horses appeared easier.

9th, 11 A.M.—Each horse presented nearly the same symptoms as yesterday, but their bodies were larger and more painful to the touch. Fomentations of hot water to the abdomen; tinct. opii ℥ij in some gruel, and tobacco enemas, in giving which to the horse first taken, there was great difficulty to the passage of the fluid. Suspecting the obstruction arose from hardened fæces, I introduced my hand and arm: there were no fæces in the rectum, which took a sudden turn downwards, lying on the abdominal muscles, as if broken from its attachments. On feeling in the straight direction, two holes on the upper surface presented themselves, sufficiently large for the forefinger to pass through, and the intestine was abraded in two or three other places. I then examined the other horse, who likewise had his rectum lacerated in several places, but none penetrated through the coats: in the one about twelve, in the other eighteen inches from the anus. I now considered both cases hopeless, and during the night the horses died.

Post-mortem Examination.—In consequence of this affair exciting considerable alarm in the neighbourhood, Mr. G. Moneyment, V. S., Norwich, was requested to attend at the examination. We found, on removing the abdominal muscles, considerable effusion, arising from peritoneal inflammation. The peritoneum exhibited greater signs of inflammatory action on the visceral than on the parietal portion, more particularly on the rectum, cæcum, and colon. The symphysis pubis being cut through, and the hand passed up the rectum, the finger was seen to penetrate its coats on the under part, as the horse lay on his back. On dissecting it out, the villous coat was lacerated in three separate places, beside two where the intestine was forced through. The inflammation had not extended along the villous

coat, but was principally confined to the peritoneal. The remaining abdominal viscera were healthy, with the exception of the liver, which had the appearance of a chronic disease. The thoracic viscera were in health.

The other horse presented nearly the same aspect as regards the peritoneal inflammation and effusion, but the rectum was not forced through, although injured in five places; likewise the other viscera, both of abdominal and thoracic cavities, were healthy. We inferred that some substance such as a pointed stake had been maliciously or otherwise passed up the rectum, and had produced the injury which terminated so fatally. There is little doubt but all the horses died from the same cause; but as they had, before my attendance, been disposed of to the hounds, I am unable positively to assert it, so likewise is the farrier; but he stated they looked all alike when opened; but the rectum he did not examine. No suspicion is attached to any one at present. Mr. Favell is a man universally respected, which makes the crime more malignant.

ON VETERINARY REFORM, AND ON SOUNDNESS.

By Mr. HARRIS.

To the Editors of "The Veterinarian."

HAVING been a constant reader of your publication from the first, and wishing for the advancement of the profession of which I am a very humble member, I have felt much interest in every thing connected with it, and have often thought of adding some of "the little knowledge I have gained" to the general stock; but have been deterred by the fear that I should not produce any thing worthy of a place in your pages: nor should I address you now, but that you appear to have abandoned, for a while, the subject of reformation.

I profess myself an advocate for reformation; although I have no wish to be classed with those who would exterminate the College and its professors. On the other hand, I have no words to express the feelings I entertain for those worthies who, in contradiction of the expressed opinions of the examining committee, the professors, the committee of veterinary surgeons, and the most respectable members of the profession, took possession of the chair, blackguarded those who were not on their side, and passed resolutions worthy only of themselves.

You some time since expressed yourselves satisfied with the

prospect before us, and probably had reason; but I think all abuses should be made known, and such measures as would be most likely to advance the profession clearly stated. I hope, and believe, that most of us entertain feelings of regard for those who have afforded us instruction; and it would be a painful task to expose errors or misdeeds; but, if public good requires it, such feelings should be sacrificed. Although the abilities of the College officers can scarcely be questioned, yet any acts which show a disposition to monopoly or private profit are fair subjects for remark, and unworthy of the professors of a national institution.

I was much interested by Mr. Percivall's paper "On Soundness," and the consequent discussion; and am induced to offer my humble opinion on the subject; yet without the vain hope of setting the matter at rest, as there is such a variety of cases and circumstances by which the minds and actions of men are liable to be influenced. If soundness is allowed to have any definite meaning, it must, I think, be perfect health, or freedom from disease; therefore, any thing which can possibly, now or at any future time, interfere with any particular function, or the service of the whole, must be unsoundness: but, in applying this to disputed cases, it should be proved that actual disease, or a usual precursor of disease did exist before or at the time of sale. With regard to examination at the time of sale, I think that no one can *positively* say a horse is sound: he may not see any thing to the contrary, and therefore give an opinion to that effect; or he may point out demonstrable disease, state the probable consequences, and thereby enable the purchaser to judge for himself, and to reject the horse, or take him with a particular warranty.

ON SOUNDNESS—A LETTER ADDRESSED TO MR. CASTLEY BY MR. W. PERCIVALL.

Regent's Park, February 4th, 1830.

MY DEAR SIR,—Since the present letter is on the subject of "Soundness," on which, as you know, I have already published a paper in THE VETERINARIAN; and since it is in reply to a communication of yours on the same subject, which appears also in that Journal for the present month, I am sure you will excuse the liberty I take in addressing you through the same public medium. I can assure you it gives me pleasure to address you, be the *medium* what it may; for, although I cannot boast of the long and intimate acquaintance with you which my father and several

other old Army Vets. can, yet, for all that, I am not ignorant of the estimation, private and professional, and regimental, in which the Veterinary Surgeon of the 12th Lancers always has been, and still is, most deservedly held. To this I will not add : " it is not for minds like ours to give or receive flattery ;" but you must allow me to wind up the paragraph with words of the same noble author :—" The praises of sincerity have ever been permitted to the voice of friendship." And now to business.

I felt, I need not tell *you*, in handling the subject of " Soundness," difficulties on all sides of me ; and some of a nature I had hardly prepared myself to encounter. It was from the commencement my object and my desire to frame *principles*, general rules of guidance, " the broader and simpler" the better ; and from this plan of proceeding I was not to be deterred, because exceptions might and did present themselves to any and every " ruling principle" my mind could shape or devise. At length I ventured to strike out the following :—

1st. That disease constitutes unsoundness.

2dly. That disease, in its actual or recognisable forms, is better understood than defined.

3dly. That disease, in its relation to unsoundness, in *disputable* cases, is to be determined to be present or not, by the rule of *impairment of function or capacity*.

On which positions you remark, " I would simplify them into one ;" viz. that alteration of structure, attended with interruption or impairment of function, constitutes unsoundness. I wish, with all my heart, I *could* " simplify them ;" I wish I could make your single rule answer the purpose of my double one. You have taken up the same ground upon which our Professor stood, on the occasion when he bothered the wig of the chief-justice so, that " all wisdom" told the jury, that Mr. Coleman's evidence " put the defence out of court." However, for all that, and although *you* have enlisted under the same banners, I am not going to lay down my arms in such a cause as this, even though my worthy old master, the Assistant-professor, should be against me too!

In this attempt to " simplify" you have incurred heavy and serious consequences, and ought to be prepared to go much greater lengths than I have a notion you will find " the Professors" willing to accompany you. You have not only effected that which our pathologists, both human and veterinary, put them all together, have been unable to accomplish, but you have also put that into a nutshell which I (I say it with a bow) have not succeeded in packing into a vessel of much larger dimensions. You

have *defined the question of disease*, and, with the assistance of a "collateral rule," *settled the disputed points of unsoundness*.

You will admit, I presume, that disease, *in itself*, constitutes unsoundness: when I say "disease," I mean such as every body so calls. This being admitted, and *disease* not being *named* in any of your propositions, it must be, in course, included in your "guiding and determining principle;" viz. "that alterations of structure, attended with interruption or impairment of function, constitute unsoundness." Now, there are some diseases in which function is altered, and not structure; others in which structure is altered, and not function: and I have known horses to be taken ill, and to die, even without any detectable alteration either of structure or function, such as to account for death. I therefore feel that I must repeat here what I said in my paper, in commenting on the Professor's doctrine, that "I cannot help viewing this definition but as extremely defective."

It was the perplexing and intricate question, to say in what disease *really did consist*, which, in my mind, added so much confusion to that of "Soundness," at the same time that the latter *embraced other considerations* (for I trust I have shown that a horse, although free from disease, may yet prove *unsound)*; and it was the fruitless digest of the question which induced, or rather compelled me, to introduce "disease," undefined as it remained, into my propositions or *principles of soundness*. Even then, however, it required qualifying; and, accordingly, my third proposition (the second goes for nothing) is meant to do this, which I believe it does; at the same time that it, happily, meets other contingencies of soundness.

For, in regard to your "collateral rule;" viz. "that all horses with alteration of structure, which does not interfere with the function of the part, and which experience tells us is not likely to interfere with it *for a definite time*, are sound," you will, on turning to my positions, find that I had provided for that in the same rule as served for all such cases as could not be brought under the head of disease; viz. "by the rule of impairment of function or *capacity*." In regard to lameness in *particular*, you will find I have said (at page 463 of the 2d Vol. of THE VETERINARIAN) in my paper, "in which principles, not only are all lamenesses cases of unsoundness, but also every such altered condition of parts as can be shown, either from their very nature or *by the aid of experience*, to impair present action or diminish its natural powers, either of extent or durability." The clause "for a *definite* time," is not mine: it is one to which I cannot subscribe until I hear some *definite* meaning attached to it.

Next, you say, "As for the question, *whether a horse having one disease upon him at the time of sale is returnable for another that may supervene*, I would resign this point entirely to the lawyers, as being more properly within their province than ours." But I would not. So far from being within their exclusive province, I look upon it as a question whose merits must be sought after among ourselves; and one that, in common justice, belongs to medicine, not to law.

Once more and I have done disputing. You seem to have misunderstood my object in treating of "Blemishes." It was not to introduce "*natural* defects and deformities," but "*alterations* of the *natural* appearances of parts:" such as "broken knees;" "scars upon the back, or shoulders, or withers;" and such like occurrences. Not *lusus naturæ*.

I have often imagined that a sort of table might prove useful to horsemen, and those who are not of the profession, showing the diseases, lamenesses, blemishes, vices, &c. of horses, in relation to two grand divisions—*soundness* and *unsoundness*.

For the present, I will submit the following corollaries, drawn from my paper:—

Every horse is to be regarded as *unsound*—

1st. In a state of actual or recognised *disease*, be it *local*, or be it *constitutional*.

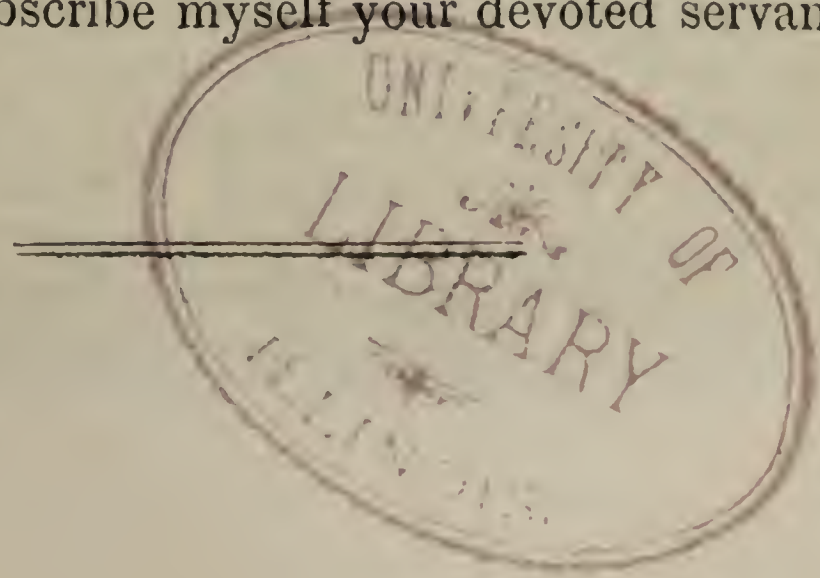
2dly. In a state of *actual lameness*, either in one single limb or in the pair.

3dly. In that state in which (although he is free both from disease and lameness) he is not equal to what by nature he ought to be adequate; or, in other words, in a state in which he, compared with another horse who is not in that state, labours under manifest unnatural *incapacity*.

These I take to be the principles upon which such a table ought to be constructed.

You may, I feel aware, now say to me, that, at least, my second corollary is comprehended in my third. I admit it is; and my first too, in *part*, but only in part; for there are, as you know, several *diseases* which do not *incapacitate*, although some of them are serious evils. Chronic glanders is one; mange, another.

And now I will subscribe myself your devoted servant.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TWO CASES OF CONCRETION IN THE INTESTINES OF HORSES.

By Mr. Joseph Trump, *Merthyr, Glamorgan.*

Nov. 3, 1829.—I was called on at six o'clock in the morning to attend a case of gripes in a horse, the property of the Penydarran Iron Company. The animal was down, and unable to rise. I was told that he had had a drink for gripes. I immediately opened the jugular, but very little blood flowed. The horse appeared to be making efforts to void dung, but on searching the rectum I found only four or five pellets of fæces in a natural state. I went quickly for my clystering apparatus; but on my return the horse was dead. He was feeding, and appeared perfectly well at four the same morning, and died by eight. I opened him immediately, and observed a great quantity of dung in the cavity of the abdomen. On searching for the rupture, I found that the smallest concretion, which measures in circumference nine and a half inches, had broken through the rectum and killed the horse. There was much inflammation about the ruptured part, with the peritoneum slightly inflamed. The horsekeepers informed me that the symptoms were decidedly those of gripes.

On the 24th, same month, I was requested to attend a mare in gripes at the same stables. She had been taken to her labour in the colliery, but was suddenly seized with illness, and brought back between nine and ten in the morning. She was restless; laid down and rolled, and got up again; no increase of pulse or coldness of extremities; she had intervals of perfect ease; and, in fact, I imagined it to be a case of cholic, and administered the usual medicine, and ordered ten minutes' walking. An hour afterwards, she not being relieved, I bled her; applied stimulants to the abdomen, and from being told that she had not dunged for some time, I dissolved a physic ball, being the only thing at hand, in about five quarts of warm water, and injected it. It was not retained long, and I left her for about an hour. On my return I found her quiet, the pulse natural, and the extremities warm; but I observed that the mare looked large, and the vulva slightly swollen; and I was informed she was about five months gone with foal. I then imagined another cause for the spasms. She was an excellent worker, and might have been put to some heavy weight, and thereby had been injured or strained. The symptoms, however, were not of that nature to warrant an extrac-

tion of the fœtus, and I left her quiet in the evening with a person to watch all night, and to call me should any change take place. I did not see her again until about a quarter before six next morning, when I found her standing quiet, and was told she had been so nearly all night, excepting now and then a spasm. The pulse was much quickened, and the extremities colder. The vulva was very considerably swollen. I then determined on the extraction when the other horses had left the stable, which were at that time harnessing, and went home for something which I might require. On my return, I found she had dropped and died suddenly. On opening the abdomen there was no appearance of peritoneal disease. I opened the womb, and took out a lifeless colt: there was nothing like inflammation, but my assistant, in pulling out the intestines, laid hold of a hard body in the rectum. He cut down upon it, and took out the largest concretion, measuring nearly thirteen inches round (the half of each I have sent, thinking they may be worth a place in your museum). The inner coats of the part much inflamed and ulcerated, but not ruptured. A piece of iron was the nucleus in both. You will find the nucleus in the larger specimen; the nucleus of the smaller was a piece of a nail, but, leaving it with a surgeon of this place, it was lost. They must have been sucked up in drinking from a puddle, when in extreme thirst, the earthy matter derived from the corn.

ON THE NAVICULAR DISEASE AND SPAVIN.

By Mr. W. J. Goodwin, *V.S. to the King.*

[Read at the Veterinary Medical Society, Jan. 28 and Feb. 11, 1830.]

Gentlemen,—When I first proposed to bring under your consideration "the Diseases of Joints in the Horse," I was not aware that Mr. Turner intended to read his paper so early on the treatment of a disease, that would otherwise have furnished me with a principal subject for remark; however, as circumstances have occurred to prevent the full discussion of the valuable result of Mr. Turner's experience in the disease alluded to, I feel that we should not be doing him justice did we not afford him an opportunity of collecting the sentiments of the members of the Veterinary Medical Society on the nature of the navicular disease, and the peculiar treatment which he has recommended.

There are two joints in the horse whose diseases, when confirmed, baffle all our veterinary knowledge. I allude to the

navicular and hock joints; and although diseases do occur in every joint, yet, by those who have paid much attention to lameness, and had opportunities of making post-mortem examinations, I am sure it will be allowed that the lameness in ninety-nine cases in every hundred, when no visible alteration of structure is present, is attributable to disease, if in the fore legs, in the navicular joint; if in the hinder ones, in the hock.

The diseases of joints in horses are few of them, except in farcy, referable, as in the human subject, to constitutional derangement. I have heard it asserted that scrofula does not exist in the horse, but I must confess that I never saw a case that I could make up my mind to call by such a name.

I certainly have seen some cases of joint affections that have much reminded me of rheumatic swellings; but there are, I believe, no authenticated instances recorded by English writers of rheumatism or gout having occurred in the horse; and if the latter disease did exist, we should certainly have observed the symptoms that attend it, for they are too unequivocal to be mistaken.

But our French brethren, as usual, have not been backward in observing gout, rheumatism, scrofula, and even chalk stones in the joints. Vitet mentions having discovered, in the hock joints of a horse that had been exposed to severe exertion every day, a thick fluid of a chalky consistence, but which, he confesses candidly, he found it in so small a quantity, and of so doubtful a character, that he should have overlooked it, had he not wished to establish his opinion that the disease was gout.

The diseases of joints in the horse, in my opinion, all commence in the same way, and, though not springing from the same cause, they are all seated in the same tissue: and though particular joints may require particular methods of treatment, as the navicular joint evidently does, yet, aware that inflammation is the precursor of all the subsequent mischief, we are imperatively required to employ vigorous means to arrest its baneful progress.

I repeat, that I believe all navicular diseases to commence in an inflammation of the synovial membrane. This delicate membrane, which, if we may judge by our own feelings, is exceedingly sensible when inflamed, is in its natural condition almost as transparent as the conjunctiva that covers the cornea: but as soon as it becomes inflamed, its vascularity is perceptible, and its vessels, filled with red blood, present a scarlet surface, and then the functions of the secreting membrane necessarily become altered.

In those joints in which we have the opportunity of observing the progress of inflammation, particularly in the knee-joint, we

find swelling to be one of the first symptoms; but in others, which are deeper seated, we have not this guide for our assistance. Increased secretion of synovia, or effusion of serum into the cavity of the joint, is, no doubt, the cause of the swelling. Subsequently, we find either that the synovia becomes absorbed, or that the membrane no longer secretes any; and then comes that painful state of the joint, and the consequent lameness which we may readily imagine will be present, when we consider that two surfaces, never intended by nature to come in contact, are rubbing on each other in a state of inflammation, while the poor beast is at the same time made to perform the most violent exertion. All our endeavours are afterwards fruitless to prevent those direful effects which all of us have witnessed. It too often happens, either through the ignorance or carelessness of the proprietor of a valuable horse, that the animal becomes consigned to permanent lameness, by his not paying early attention to prevent the progress of inflammation in a joint. The horse, never before observed to have any failing, is perceived, when led to the door, to be slightly lame: the owner, unwilling to lose his ride, finds that the lameness gets better after a little exercise; and, encouraged by a belief, prompted by his own wishes, that the cause is but a temporary one, takes such liberties with his hackney or hunter as to leave him ever afterwards unsound and valueless. Whereas, if prompt treatment had been employed, instead of allowing the fallacious excitement to mislead him, a few days' rest and care might have saved from premature destruction a faithful servant to an undiscerning master.

Effusion of lymph I take to be the second alteration that occurs; then ulceration of the membrane; then absorption of the cartilages, and caries of the bones; and these followed by a train of mischief involving the contiguous ligaments, tendons, and all the surrounding textures. This destructive disorganization goes on, seldom terminating before complete anchylosis of the joint has taken place. A melancholy specimen of such termination I now present to you, and which may have been, for aught I know, the hock of a once valuable horse, that had, perhaps, for years before his death, been driven in a hackney coach or post chaise, eking out an existence of daily torture and suffering, and furnishing an example of cases as fit to come within the pale of Mr. Martin's act, as hundreds that occupy the attention of magistrates, who, perhaps, have but little idea of the cruelty there is in goading a high-spirited but unfortunate horse, to use his aching limbs when in this state. Although our experience teaches us that, in the majority of cases which have been some time in progress, there is but little hope of cure, yet I have by

me a specimen of a navicular joint, which shews that we are not always warranted in drawing an unfavourable conclusion. It was taken from a horse that worked many years tolerably sound after the operation of neurotomy had been performed upon him: the joint is entirely obliterated, adhesions having united the surface of the tendon to the opposite surface of the navicular bone; and perhaps such a result in these cases oftener takes place than we imagine. Favourable consequences, however, can only be expected when this occurrence happens in the navicular joint, for in any other permanent lameness it would be inevitable.

It is during the first stage of the disease, that is, when inflammation is commencing, that I conceive the affection to be the most painful; and the lameness is generally of a more decided character at first than afterwards. When the synovial membrane becomes abraded, the cartilages coming in contact do not, perhaps, produce the same pain as when the sensibility of the membrane was increased by inflammation and unimpaired by ulceration.

It were certainly desirable for us to be able to distinguish when such alterations in joints have taken place; for when our advancement in veterinary science shall have obtained us such a knowledge, our prognosis on the subject of soundness will be more accurate, and our treatment of disease more correct. I have no doubt that, under the same circumstances, the period when ulceration takes place occurs about the same time; and that we might by strict observation and close attention to symptoms, and by taking notes of them, offer much important information to the veterinary world. In the human subject the feelings of the patient in these affections direct the surgeon's attention to a train of symptoms, which enable him to make comparisons and observations, and give him a decided superiority in his knowledge of the actual state of disease, and the remedies which he applies. The surgeon can with effect enjoin rest to the tortured joint of his patient; not so with us: and yet, with all his judicious treatment, he is too often convinced of his inability to arrest disease in a joint.

Referring to books on surgery, we find, among diseases of joints, "ulceration of the cartilages" described as an affection existing long before any alteration is produced in the synovial membrane. In the horse I am not aware that such a disease has ever been observed to exist as a primary affection.

When suppuration in a joint takes place, which, fortunately, is by no means of frequent occurrence, alarming symptoms, endangering the life of the horse, frequently accompany it; and if it occur in a joint of any importance, the animal will remain a

cripple afterwards. Such, at least, has been the termination of the few cases that have come under my notice, in spite of every effort to prevent such a result.

Navicular Disease.

Having made these few preliminary observations, I proceed to draw your attention to the navicular disease, as it is called, and to remark upon the nature and treatment of it, as laid down in a paper lately read to you by Mr. James Turner.

The term navicular disease is by no means a descriptive name for the affection that it is intended to designate ; but it has been so termed from the disease occurring on the under surface of a bone of the foot called the navicular bone by ancient anatomists, from its supposed resemblance to a ship *(navis)*. As, however, we generally understand what is meant by the term, I shall not venture to suggest any other to supply its place.

During my pupillage at the Veterinary College, I well remember that Mr. J. Turner, in the year 1816, drew the attention of the professors and students to his observations on this disease, in a paper which has been since published (vide Veterinarian, vol. ii, p. 53), and which he read at that time, in the lecture room. Previous to that period, although the disease had been seen by others, no mention had ever been made of its being the general cause of lameness.

To shew the ignorance of Mr. Coleman as to its existence, I must relate that he observed, that Mr. Turner's paper was certainly an ingenious one, although he was persuaded that the disease alluded to by Mr. T. was of very rare occurrence.

Mr. Assistant Sewell was tenacious that the discovery should emanate from any one besides the professors within the College walls, and spoke of his portfolio containing accurate descriptions of the disease.

However, time and public voice have given that credit to Mr. J. Turner, which our discerning and liberal professors were then unwilling to accord to him:

"Meruuit qui palmam ferat."

Having had many opportunities of making observations on the foot of the horse, the different methods of shoeing, and the changes the foot undergoes in disease, subjects to which my attention was early directed, I may be induced to state my opinions, perhaps, with more confidence than they merit. I consider it proper to mention this, particularly as I commence by differing materially from the opinions of Mr. Turner. It will be for you, "gentlemen," to decide our differences, and I am sure we can neither of us want candour nor feel reserve before such a jury.

Much has been said about the natnral shape of the hoof being such as to favour the occurrence of the navicular disease, and Mr. Coleman has contended that a circular foot, with a wide heel, is the most unlikely to engender disease. I may be wrong, but my idea on this point is directly at variance with his; and my experience leads me to believe that the oblong foot, with a moderate span for the heel, is the best for all purposes, and the most likely to keep free from disease.

Contraction is such a familiar term, and so misapplied among horsemen, whose knowledge is but slender about feet, that I cannot omit this opportunity of stating my conviction that it will be found a difficult task to produce a horse lame from this cause alone. The natural form of the foot differs in the horse as much as any other part of his make and shape, and I can produce numerous instances of feet that would, by many, be pronounced "unsound from contraction;" yet that would have proved the fallaciousness of such an opinion.

I have now a horse under my care whose cartilages and heels are so wrapped over each other, that the space of the frog is not one-third of its natural dimension; yet this horse has been for years subjected to severe work, and was never known to be lame.

Here is a case in which the laminæ have been pressed on very severely, from an external cause: it is what is called a seedy toe. Internally, you feel a large projection into the hoof, and which was accompanied by a corresponding sulcus in the sensible laminæ and coffin bone; yet this animal was seventeen years in severe work, and never lame. Here are two feet, beautiful in shape. There is no contraction of the inner quarter; no occult contraction, nor any appearance of alteration in form whatever: yet the horse became lame in both feet when three years old, and continued quite groggy till he was destroyed, at the age of fourteen; and you may judge from these navicular bones what a cripple he must have been during life.

Mr. Turner has described what he considers as antecedent or precursory symptoms of the navicular disease, "the occult contraction," which I take to be nothing more or less than what has hitherto been known by the term of concave or morbidly thick sole, and which often occurs without producing the navicular disease; "the falling in of the inner quarter," which is often present without any other symptom, or any lameness; and "the degeneration of the fatty frog into a hard substance," of which, as I have never seen it, I cannot form an accurate judgment.

On these antecedent symptoms, I will quote to you his own words:—"To detect the existence of this insidious disease

during life, in its incipient state, all the tact, talent, and discrimination of the experienced practitioner are in requisition; for there are many apparently fine open-looking feet affected with this complaint, which, in reality, are treacherous feet, and conceal from the eye of a common observer a lurking evil, which is generally antecedent to the navicular disease."

For my part, let alone the common observer, I cannot imagine how the experienced practitioner can prognosticate, with any degree of precision, what is to be the future state of this treacherous foot, apparently, as described, a fine open-looking one; unless disease have taken place, and then I imagine lameness would lead him or any one else to suspect the treachery that is existing unseen within. Veterinary practitioners should be exceedingly guarded in every opinion they offer about the future condition of any part of the horse; and there is none in which they should be more cautious, than when giving opinions about feet; for it must be admitted, that we daily meet with many feet, whose appearance would lead us to pronounce them unsound, where experience proves the opposite state.

When I am called to examine a lame horse, I often find all my "tact, talent, and discrimination," of no avail to discover the cause of lameness; and I am certain there are those, who, if they have the candour to confess it, are often placed in the same situation. After having minutely examined the lame limb, and had the shoe taken off, and the foot thoroughly searched, and having no reason to suspect the mischief to be any where else, I invariably, knowing the frequency of the occurrence, attribute it to the navicular joint. It will, of course, be understood that I am now alluding to lameness of the fore leg. I then turn my patient into a loose box; bleed and physic; place the foot or the feet, if lame in both, in poultice boots, which I always keep for that purpose, with crushed linseed moistened; and I enjoin perfect rest for at least ten days. In nineteen cases out of twenty, if treated in this way, and as as soon lameness occurs, the horse becomes sound again at the expiration of that time, when I usually have a shoe tacked on to try them in the ride.

If I find that the horse is still lame, I resort to bleeding at the toe, and keep the foot constantly pared, and the horn suppled by the emollient poultice; and when I have given these remedies a full trial without success, I usually blister the coronet, and sometimes with a decidedly good effect.

When all these efforts to produce soundness are unavailing, and the foot becomes altered in shape, the sole increasing its concavity, the crust becoming upright, and the diameter of the

coronet diminishing, it requires no very extraordinary talent in an experienced practitioner to discover the seat of the malady, though it would puzzle all his tact and discrimination to effect a radical cure, if the disease have existed any length of time.

My attention was struck with the feasibility of a theory offered by Mr. Turner as to one cause of the navicular disease, and I cannot divest myself of the idea, that such a cause, oftener than any other, produces it. I allude to what he has said about the condition of the foot in horses confined, as they usually are, to a stall for four or five days together. The horse, in a state of nature, seeking his food, is always upon the move; consequently the frog and posterior part of the foot are in motion, and by means of that motion retain their wonted elasticity: not so in his artificial state, tied to the manger, for the frog then becomes hardened, and is in itself the cause of violence to a part,—the navicular joint,—which it was purposely designed to protect. The animal, after so long a rest, is taken out of his stable, and, perhaps, hurried immediately into a quick pace: the result is, that mischief to the foot is accruing at every step, in consequence of the weight of the animal squeezing the tendon between the navicular bone and the frog. The short step and the stumble of a horse just starting corroborate the truth of this reasoning; and I have also observed that the disease occurs oftener in those feet where the frog is inclined to be protuberant and hard, than when it is smaller in size and preserves its elasticity.

All horses prefer standing with their heels elevated; and whenever there is a favourable opportunity, such as a shelving grating in the middle of the stall, we invariably find them back in their places to enjoy such a position. This posture is no doubt preferred to the opposite one, inasmuch as it relieves the flexor muscles and tendons from the weight which appears to be borne with less stress to the animal by the laminæ and extensors; but it also favours the ascent of the frog and sole, which, by long rest, have become fixed in this elevated position, when it only requires, as Mr. Turner has it, a trot over the stones to Mile End to produce a navicular case. I contend that we have more cases commencing in this way than when the disease has been coming on gradually, or treacherously, for a long time before it has been discovered; and that the symptoms described by Mr. Turner as antecedent, usually occur subsequently to the affection of the joint.

To account for the many injurious alterations that take place in the foot of the horse, I must refer you to the difference between the shod and the unshod hoof. The foot of a horse at grass is always filled with earth, which affords a necessary degree of support to

the whole of its basis, the want of which in the hoof-shod horse compels some parts to sustain more than the intended quantum of the superincumbent weight, which destroys the natural equilibrium, and induces more or less deformity in every part of the foot.

On the Cure of the Navicular Disease.

Mr. Turner states, that the first indication of it is the depression of the coffin bone: but we often have cases of the disease occurring without the bone being displaced; and therefore I contend that the first indication is the abatement of inflammation in the affected joint.

When the hoof appears of its natural shape, and we have no certain marks to indicate the cause of lameness being in the navicular joint, I should deem it an uncalled for practice to commence bleeding at the toe in such quantity as to produce an effect on the system, or to remove the horn from the sole and quarter, as Mr. Turner prescribes; but I should first try the effect of one general bleeding, a dose of physic, and rest, with the foot poulticed.

Mr. Turner proceeds, on the third or fourth day, to give walking exercise, which treatment cannot, I am sure, be either practically or theoretically consistent with surgical principles. Instead of making the animal injuriously bear his whole weight, in action, on a joint in a state of inflammation, I prescribe rest, until the lameness disappears; and I conceive benefit to be produced by keeping the frog soft and elastic by poultices. I also apply to the leg a wet bandage, to keep up evaporation, which lessens the action of the vessels in the limb.

The next part of the treatment Mr. Turner has qualified by stating, that "many practitioners may view it as an unwarrantable violation of nature: it consists in the entire removal of the crust or wall at the inside heel, and the bar adjoining; the direct object for such a step is the unfettering the inside heel of the coffin bone." The practice of removing the horn from one or both quarters I have seen pursued, in many cases of lameness, without the slightest benefit to the joint, although the horn has been reproduced in its natural form; nor can I imagine how the unfettering of one end of the coffin bone, which of course leaves the opposite end still elevated, can produce the desired return of equilibrium in these parts. Mr. Turner directs that the toe be pared to the quick, having, he says, a two-fold object in view for shortening the toe to an extreme; the principal one "consists in rendering the front part of the foot very sore, so as to induce the animal to transfer his weight more towards the back part and on the navicular bone, thus rendering every minute conducive to the depression of the navicular bone and the heels of

the coffin bone." But, adds Mr. Turner, " it should be observed that I am not urging the patient to bear his weight on the diseased joint till after its inflamed vessels have been relieved by the blood-letting."

This part of Mr. Turner's treatment is most mysterious to me ; for I should as much think of rasping away the toe, to bring the weight upon the heels and the navicular bone, as I should of rasping away the heels to produce the opposite effect. Making the toe sore, to induce the horse to throw his weight on the heels,—parts alreay in pain,—would place him in something like the situation of a man with a cut on his toe and a sore place on the heel; and I leave you to judge how much weight, under such circumstances, would be thrown on any part of the suffering limb.

Wherever theory is at variance with practice we generally find that it is delusive and injurious ; and so must be that theory which could induce Mr. Turner to commence walking exercise the third day, when he is driven to a second bleeding on the fifth or sixth. If the synovial membrane of my knee-joint were inflamed, and my surgeon were to prescribe copious abstraction of blood by leeches or cupping on one day, and desire me to walk upon it the next and the third day, and then to submit to another leeching and cupping, I certainly should very much question his judgment.

There is no symptom so decisive of the progress towards cure, in these cases, as the return to soundness; but it would be a difficult matter for any practitioner to judge of the state of a horse treated after Mr. Turner's method ; for he could not discriminate between the lameness produced by the treatment, and that produced by the disease.

In all that I have said, I allude to those that I consider to be recent cases of navicular disease; but no distinction has been made in Mr. Turner's paper between those beginning to be affected and others that have existed long enough to produce all kinds of deformity in the hoof. With the latter cases, I wish him all the success in their treatment his observation leads him to anticipate. But I do not pretend to distinguish between those cases that are curable and those that are incurable ; for I have seen many get well where no doubt could exist that chronic disease in the navicular joint had been the cause of lameness ; and, on the other hand, I have seen, and have specimens of feet by me where no visible alteration in the hoof could be detected, yet where lameness had become permanent.

If the patient be a valuable one, and the disease have existed any length of time, the safest plan to adopt, after getting him sound, is to recommend a three months' rest in a straw-yard, or loose place, without shoes, before commencing to work

him again ; taking care to keep the foot well pared during the time; and also, in most cases, previously applying a blister to the coronet.

One more quotation from Mr. Turner, and then I shall conclude:—"From the facts that I have collected relative to groggy lameness, I am thoroughly convinced that we have as much control over the early stage of this disease as we have over any less important organ, when attacked with inflammation." Such a statement appears to me to be almost at variance with the rest of his observations. It is, at least, an admission that the chronic form of the disease is not curable; and I will ask whether we are justified in calling the disease by any other name than chronic when it has lasted long enough to produce all the changes in structure which Mr. Turner attempts to remedy by his method of treatment. Before, however, I leave this subject altogether, I must say that no one more highly appreciates the efforts of Mr. Turner than I do in endeavouring to throw light on the most important class of diseases that come under the veterinarian's care.

On Spavin.

Having occupied so much of your time already, I will endeavour to explain, in as brief a manner as I am able, my experience on the subject of this complaint; but as my ideas of this disease are very different from those of the authors of both the present and past day, I shall commence by quoting to you what has been published relative to it by Mr. Percivall and by Mons. Heurtrel D'Arboval.

From Mr. Percivall's Elementary Lectures I quote the following:—"The word spavin has been applied to several diseases of parts about the hock-joint, not only distinct, but even opposite in their nature, prefixing to it, by way of diagnostic, the epithet bog, blood, or bone, according to the supposed nature of the malady. Now-a-days, however, we seldom use the term, except to denote the last of these affections: the two first, having their origin in extremely erroneous notions, are pretty generally discarded among professional men. We would define a spavin (called by horse-dealers and grooms a jack) to be an exostosis upon, or near to the inner and lower part of the hock. In its origin and progress it is very similar to a splent; indeed, it may be, in reality, purely a splent; although, from its situation, we should denominate it a spavin. To explain this, a spavin may, and commonly, we believe, does arise from an inflammation of the cartilago-ligamentous substance connecting the head of the inner

small metatarsal to that of the cannon bone, without any accompanying disease of the bones of the hock; and this, terminating in ossification, may be a splent as to its nature, but is a spavin as to its situation. If, however, the inflammation extends from this cartilago-ligamentous substance to the ligaments and bones of the hock, and terminates there in the effusion of bony matter; or if the exostosis of the inner metatarsal bone itself is so placed as to disturb the motions of this joint, then does a spavin differ essentially from a splent. To elucidate this point still farther:—if the exostosis, instead of making its appearance just beneath the hock, is seated about the body or lower extremity of the cannon, it constitutes a splent of the hind leg,—a disease, however, of but rare occurrence, owing to the bony deposit commonly appearing at that part where inflammation is first excited.

"Although a spavin, at the commencement, may be confined to the metatarsal bones, it seldom happens that those of the hock do not ultimately partake of the disease; and this will account for the various degrees of lameness and stiffness observable in that joint: indeed, we have little doubt but the internal parts,—the vascular lining of the joint,—become eventually diseased; so that the synovia is unnatural either in quantity or quality, or, perhaps, both, to which is chiefly referable the explanation of the fact of spavined horses improving in their action during work. In almost all cases of inveterate spavin, the cuneiform bones are united together by a layer of ossific matter, extending upwards from the inside of the large and inner small metatarsals; so that there is no longer any motion whatever between the small bones of the hock and those of the leg: very commonly, also, the same sort of union renders the os calcis, as well as the os cuboides, fixed in their places."

I now proceed to Heurtrel D'Arboval's definition of the same disease:—"We give the title of spavin to the exostosis that occurs at the superior internal and lateral part of the cannon bone of the hind leg; and we call it the osseous or callous spavin, to distinguish it from that which is denominated the *eparvin sec*, or (what I should construe as) *the imperceptible spavin*. The latter consists in a convulsive and precipitate catch of the limb at the moment it is put in motion; but where no swelling is observable, this irregular and disagreeable action is called, in French, by two names, 'harper' and 'trousser.' It is perceptible from the moment the horse starts till he becomes, as it is commonly called, excited and heated by exercise, when this catching becomes no longer perceptible, unless it has already existed such a length

of time as to cause continual lameness. This infirmity, which may truly be designated as one, sometimes only occurs in one leg, and the horse so affected soon becomes totally incapable to perform any kind of work. The causes of this disease are not well known; but they have been attributed by some to a shortening of the flexor muscles and tendons of the thigh; others assert, that the disease exists in the hock joint. The latter opinion, less probable than the former, appears to have no foundation; and dissections hitherto have thrown no light whatever on the subject. Many proprietors work their horses lame from this cause, and we know of no remedies for this kind of peculiar and uncontrolable lesion.

"The osseous tumour which constitutes the true spavin generally occasions lameness, and is of the nature of curb and other exostosis; and the treatment which is employed for curbs and exostosis is equally applicable here."

That exostosis does occur at the part already described by these celebrated veterinary writers, I am willing to admit; and I have seen many of them exist, of considerable size, without producing lameness.

I do not know whence the term spavin is derived; but, under such denomination, it appears to me, as Mr. Percivall has said, that diseases very different in their nature are described.

It is but of too frequent occurrence that authors trust to their predecessors for accurate descriptions of disease; and in this way erroneous notions become handed down to us without fear of their being disputed; and the same indefinite ideas have been quoted from book to book, till the practitioner has never thought of questioning the truth of these ancient and, perhaps, unscientific definitions.

Before Mr. Turner pointed out the seat of lameness in the fore legs, we were referred to the shoulders and, in fact, to every other part but where it really was, for the cause of it; so I believe the case to be with the frequent lameness that occurs in the hind legs. It is my belief that, when lameness commences behind, although it is usually attributed to the round bone, to the stifle joint, or perhaps to the loins, the seat of it is in the synovial membrane that covers the cuneiform bones of the hock.

I shall now relate to you the history of the case I here present to you; and as it corresponds minutely with others from which I have derived my notions respecting spavin, I need only trace the symptoms that were present in this instance, to put you in possession of my experience on this disease.

The subject, in this case, was a harness horse of unusual per-

fection both in shape and action, and was a great favourite of an illustrious personage. He suddenly became lame behind, on the off-leg, and without the least visible alteration of structure to account for it. Circumstances, unfortunately for the poor beast, were such, the lameness disappearing after his being turned out for a short time, that, instead of being given up immediately for treatment, he was made to perform his usual work until perfectly incapacitated from it by returning and aggravated lameness. Suspecting the seat of the mischief to be in the hock, although at the time the joint was unaltered in form, he was, three months after the commencement of the lameness, blistered and fired; after which operations he was either in a loose place or paddock, as circumstances required. Not the least amendment took place at the end of six months, even in his quiescent state; and, after twelve months' trial from the time of his being given up for treatment, he was destroyed, his case being naturally considered a hopeless one.

You will perceive, that ulceration of the synovial membrane taking its origin between the two cuneiform bones, has extended to the bones; that they have become carious; and the disease has been gradually extending itself to other parts of the joint; and I have no doubt that, had the animal been suffered to work on for any length of time, necrosis or anchylosis of every bone concerned in the hock would have been the result, as you may observe has been the case of the hock I now show you.

I know not of any diagnostic marks that would lead us to discriminate the kind of conformation most susceptible to be attacked by this disease; but by drawing your attention to these cases, I trust, if your experience confirms that which I have stated to be the usual cause of these lamenesses, some more light may be thrown on a most important part of veterinary practice.

It is necessary to have a true notion of causes before we commence treatment for effects. And I shall now pause until I hear how far the opinion of others corresponds with my own on this subject.

FACTS AND OBSERVATIONS.

By Mr. CASTLEY, *V. S.* 12*th Lancers.*

No. I.

"Take Nature for thy guide."

"IF every one would write as much as he knows, and only what he knows," we should advance in the path of improvement with a firm and united step. This is a good observation to keep in in mind perhaps at all times, but more especially when we have to deal with practical facts only. To this I would add, "and let every one tell his story in his own way." For my own part, I must confess, I had rather hear a man speak plain good sense, than see him ever aiming at fine words and high-sounding phrases,

"Like little wanton boys that swim on bladders."

OF METASTASIS OF INFLAMMATION.

We have all of us occasionally witnessed instances of what is called acute founder, or inflammation of the feet, occurring as a supervening consequence of severe or long-continued attacks of pneumonia; and, when this takes place, it is said that the fever falls into the feet: hence the term "fever in the feet," a term by no means so objectionable as some we retain, but, on the contrary, I think very applicable under these circumstances, and expressive of the change that actually does take place; and which, in fact, is a translation of the inflammatory action from the lungs to the feet.

But I think I have more frequently observed a painful inflammatory affection of the tendons and bursæ about the back of the large pastern joint, appearing as a subsequent consequence in cases of this kind, and which is often confined to one leg only, but sometimes shifts from one limb to another. I am not aware that this circumstance has yet been noticed by any veterinary writer; but I have no doubt there are many practitioners who can bear me out in the observation. The symptoms are—sudden lameness, increased heat in the part, and expression of pain on pressure with the hand. I have more than once seen this species of inflammation change its ground from one leg to another in rather a sudden and curious manner. The most

remarkable instance, I think, of this sort that I remember, occurred when we were at Brighton some years ago. A young horse belonging to the regiment had been suffering under a very severe and long-protracted attack of inflammation of the lungs: the case was for some time doubtful: ultimately, however, it seemed to be doing well, when, all of a sudden, the patient was seized with lameness in two legs (the near-fore and off-hind), but more especially the near-fore, where he evinced much pain, on the slightest pressure, over the back part of the pastern joint. Local bleeding and the warm bath were the remedies employed; and, on the third or fourth day, this affection as suddenly shifted into the two opposite legs; appearing, however, in a less violent form. A few days afterwards it seemed to leave the fore extremities altogether, and to fix itself in the two hind ones; then, in a few days more, it changed back again into the near-fore leg, where it first began, and there it ultimately ended; leaving, however, no bad effects behind. The horse perfectly recovered.

This species of metastasis, a kind of shifting soreness of the tendons or bursæ, may be sometimes troublesome enough, and attended with temporary inconvenience; but I have never known any permanent bad consequences to arise from it, except in one case, which has occurred lately, and which appeared to me to be sufficiently interesting to be put on record. I shall proceed, without further comment, to give you some account of it.

A brown mare, six years old, and in fat condition, was admitted into the infirmary stables, Piers-hill Barracks, on the 16th of July last, with what might be called a smart attack of pneumonia, but which appeared speedily to give way to bleeding, &c.: the pulse and breathing had become tranquil, and there seemed to be nothing to fear. When horses are thus speedily relieved from an attack of this sort, I have observed they usually recover their appetite and spirits; and then those who have the care of them are extremely apt to indulge them with food too soon; the consequence of which is, sometimes, a relapse. I suspect this was the case here; for, on the third day after admission, we found the patient labouring under a very severe relapse, distressed breathing, quick pulse, cold extremities, great dejection of spirits, and total loss of appetite. Bleeding was repeated, rowels were inserted, the sides extensively blistered, laxative and diaphoretic medicines administered, and under this treatment the symptoms again subsided to a certain degree; still, at the end of a week, we had a quick irritable pulse, almost total loss of appetite, and much constitutional disturbance. The patient continued in this state, with but little abatement, until about the fourteenth day, when we found her complaining very much of the off

fore leg, resting the foot forward, or only pointing the toe to the ground, and sometimes holding it up altogether: she expressed much pain on being handled about the fetlock, but, as yet, there was no swelling in the part. We employed bathing, fomentations, and local bleeding, laxative medicines, &c.; but the leg seemed to get rapidly worse, and much swelling ensued, extending from the pastern to the knee. The mare now never put her foot to the ground, but absolutely hopped about the box. A quantity of blood was taken from the axilla, and large poultices ordered to be kept over the whole extent of the leg. The pulse now dropped to about 40, and the patient began to feed. Yet, notwithstanding an active treatment, the swelling and inflammation continued in the limb, with little abatement, until the middle of August, when it began slowly to subside.

The treatment was often varied: cold applications, evaporating lotions, and, lastly, stimulants. By the end of August the inflammatory swelling was gone, leaving only a slight thickening of the leg, and a callous enlargement, of no very great size, over the tendons at the back of the large pastern joint; yet the mare seemed to make little or no use of the limb, walking, or rather hopping, upon the toe, and never putting the heel to the ground. During the month of September we had recourse to repeated blistering, with comp. tinct. of cantharides, essence of mustard, &c. &c. and with considerable relief to the lameness. The mare was then allowed to hobble about at liberty in the day time, and certainly got a good deal better; but, being still very lame, at the half-yearly inspection, which took place on the 20th of October, was cast and sold, being considered unfit for further service.

The occurrence of this case has originated the present memoir; in which, by taking a retrospective view of a considerable period of practice, I have endeavoured to connect this fact with others which I have noticed of a similar nature; and, by following this course, I have thought to render it more interesting to my brethren. I hope others will do the same, as many facts are always better than one.

While on this subject, I may also observe, that I have seen several instances which have induced me to believe that the periodical ophthalmia, with which we have so often to struggle in vain, may not unfrequently arise as a metastasis, or supervening consequence, upon certain disturbed states of the system; and I think I have seen this occur decidedly after long-continued or repeated attack of diabetes, a disease often occasioned by feeding upon unsound or mow-burnt and badly kiln-dried oats.

I had an opportunity of noticing some well-marked cases of

this sort during the three years the army of occupation remained in France, subsequent to the battle of Waterloo. The contractors employed by the French government to furnish the British troops with forage, &c. purchased a great part of the corn for the cavalry horses in Normandy, whence it was brought along the coast, for the most part, in open vessels, and thus subject to get damaged with wet in the transport, particularly during the rainy summer of 1816. It was landed at Boulogne, Calais, and other places, where it was put in store, generally heaped up to an immense thickness, and consequently soon became heated; sometimes to such a degree as, in a short time, to be literally half rotten. In this state it was either offered to the troops, or *forced upon us*, when mixed with a portion of better, so as to give it a more plausible appearance. Complaints were continually made, and investigations set on foot; but still this grievance was never entirely removed: the oats always presented a more or less unsound mixture, giving to the whole the character of an unwholesome food for horses. The consequence was, that diabetes was always a very general complaint amongst our horses, but more especially in 1816, during which year it often prevailed to a most *frightful extent*. We endeavoured to check it by mixing chalk in the water, and by giving all kinds of astringents internally: for common use, I generally found the following formula satisfactory: ℞ powdered galls, alum and bole, each ℥j, ginger ʒi, in a quart of beer; to be given by way of drench, or in the form of a ball, divided into two parts, and to be given morning and evening.

Every one knows that the common symptoms of diabetes are, excessive staling, accompanied always with *insatiable thirst*, and wasting away of the flesh; but to these we had often also added, loss of appetite and great constitutional disturbance. It was when these last symptoms were present that I remarked an attack of inflammation of the eyes was very apt to supervene, and which afterwards never failed to recur by paroxysms, putting on the regular periodical character. Of this extraordinary and lamentable disease, the periodical ophthalmia of horses, I may be allowed to remark, *en passant*, that, from whatever causes it may arise, whether from hereditary predisposition or adventitious circumstances, no matter what its predisposing or exciting causes, whenever it has been once *set up* in the system, it will run its course in spite of our best efforts. It is something like setting a large stone a rolling down a steep hill; it will never stop till it gets to the bottom: at least, it must be confessed that, hitherto, all our attempts to arrest its progress have proved unsuccessful. I purpose, on a future occasion, to give you such remarks as have occurred to me on this interesting subject.

During the period I have alluded to, i. e. during the stay of the army of occupation in France, a very great number of English horses had diseased eyes, and many went blind. Horses of all ages, and with all kinds of eyes, were liable to be attacked in the way I have mentioned. The question has often been asked, Whoever has seen a *wall-eyed* horse go blind? To this I will answer, I have. I remember two horses in particular—two officers' chargers belonging to the regiment—whose eyes were of that sort which are said never to go blind, but which became affected under exactly similar circumstances. One had the brown or hazel-coloured eyes, like that of a sheep; and the other was a wall-eyed horse: they were seven and eight years old. These horses had been remarkably subject to diabetes, which had been frequently checked with medicine, &c.; but on one occasion, in consequence, I believe, of much marching and moving about, the complaint was suffered to continue unheeded for a long time together. Ultimately, they both became very weak, and exhibited ill-showing symptoms of exhaustion, with loss of appetite, accompanied with accelerated pulse and breathing; and, in short, great general disturbance of the system. Under these circumstances their eyes became suddenly affected, presenting, all at once, a general turbid and muddy appearance; and for several days together they seemed to be either quite blind, or scarcely able to distinguish one object from another. As the other symptoms subsided, however, so did this: the eyes became quite clear again. But from that time they were ever afterwards subject to periodical attacks of inflammation, assuming a regular character; recurring again and again by paroxysms, and ending in cataract. One of these horses afterwards dying, we found his mesenteric glands and liver much diseased.

I have selected these two cases from amongst a number of others of the same nature that I remember: they appeared to me to be well marked, and made a strong impression upon me at the time. They occurred in subjects having passed seven years old, and in that description of eye which is said never to go blind; and which, in fact, I have never seen affected with this complaint under any other circumstances.

I am much inclined to believe that the periodical ophthalmia does also occasionally arise, as a supervening consequence, out of other disturbed states of the system, besides the one I have stated. But in saying this I must not be understood as favouring the old humoral pathology, of which so much has been said, and which still has its strong hold in the stable. I have often heard the remark make by old horseman, and persons who have lived all their lives in a stable, that, if you dry up running

thrushes, or any habitual discharge, too abruptly, *the humour* will be likely to fly to the eyes. But although I am the last man in the world to treat practical observations with neglect, yet I cannot say that I have ever seen a single well-marked instance of this kind. There is, I think, much more truth in the remark which I have sometimes heard the same class of individuals make, viz. that "kiln-dried corn is apt to bring on bad eyes."

One swallow does not make a summer, nor shall one fact ever establish in my mind any point, which, to be right, should be of frequent occurrence: but, if I had seen many cases like the following, I should be much inclined to think there might be some truth in the old doctrine I have mentioned. As it is, I cannot help bringing it forward as a curious though insulated fact, not unconnected with the subject I have in hand: it appeared to me so remarkable at the time, that I thought it worthy of being put on record. I extract it from the register:

A bay gelding (a troop horse), eight years old, was admitted into the infirmary stables, Canterbury, on the 11th of February, 1819, with a severe affection of both eyes, being the first attack. Eye-lids much swollen, great vascularity of the conjunctiva, intolerance of light, and profuse flow of tears down the cheeks. During the last three months previously to admission, this horse had been subject to habitual swelling of the legs, for which some doses of laxative and alterative medicine had been given. When the eyes became thus affected, we remarked that the swelling of the legs suddenly ceased. An active treatment was put in practice with respect to the eyes, repeated bleeding, &c. &c.; and on the 4th of March the eyes seemed much better; the tumefaction of the lids had disappeared: but there was a partial return of swelling in the hind legs. (A good discharge from the rowels which had been inserted in the chest and thighs.) On the 8th, the eyes had become free from inflammation, although rather dull and discoloured, and the swelling of the legs had disappeared. On the 18th, the eyes had nearly resumed their natural appearance, the legs remained fine, and the horse seeming in other respects in good health, he was discharged, but was readmitted on the 20th of May, with a recurrence of inflammation in the near eye, the other not being affected. The paroxysm appeared obstinate, not giving way to treatment; and continued, with but little abatement, until the night of the 5th of June, when a painful inflammatory swelling made its appearance in the near hind legs, extending along the inside of the hock and up the thigh*. But what is remarkable, on the deve-

* We often see this kind of affection occur, especially amongst young horses; they call it, in Yorkshire, a "shoot of humours;" in Scotland,

lopement of this symptom, the inflammatory action suddenly ceased in the eye. Bleeding, laxative, alterative, and diaphoretic medicines were employed. On the 15th of June, the phlegmonous swelling (as I have ventured to call it) disappeared rather suddenly from the limb, and, at the same time, the off-eye was attacked with a violent paroxysm of inflammation; the near one partaking, but only in a slight degree: and this continued till about the 30th, when it again began to subside, ultimately leaving the eye very cloudy and discoloured, and with an incipient cataract in both. This horse was soon after cast and sold, on account of blindness or diseased vision.

Here, then, was a clear metastasis, or translation of the inflammatory action from the legs to the eyes, and back again, well marked, and occurring more than once: but I have seen nothing like it since, and, I repeat, I give this merely as a curious fact. I am aware that no stress can be laid on a single instance.

I have been drawn into a longer story than I at first intended, and am afraid I have been trespassing much upon your patience; but,

> "Such are my tales: if readers wish for more,
> Sir Joseph's wallet holdeth many a score."—P.P.

Edinburgh, Jan. 1830.

We will venture to say, in behalf of our readers, that they wish for nothing better than the gradual unburthening of a wallet stored with such excellent viands. There is, however, one article, a portion of which has been already served, so richly flavoured, and abounding with such nutritive matter, that, although gluttony be a "*vice*," and may soon become a "*habit*," we are longing for a second taste of it.—EDITORS.

a weed (I don't know why), and I am not aware that we have any better term for it, yet I think we ought. I may here take occasion to remark, that I, for one, have often felt the want of some better nosological arrangement than that in common use amongst us; of which, it must be owned, many terms are vague and indefinite, not to say barbarous.

THE VETERINARIAN, MARCH 1, 1830.

Licet omnibus, licet etiam *nobis*, dignitatem artis *veterinariæ* tueri.—CICERO.

A RECENT decision in the Court of King's Bench has afforded matter for gratulation to the *general practitioners* of human medicine. Mr. Handley, a surgeon-apothecary, had attended a patient during several weeks; and on his bill being demanded, had sent in an account of visits and medicines, and the medicines very few in number. He affixed no separate price or charge to the different items, but placed a sum, and a very moderate one, at the bottom of the list. The patient refused to pay for the visits; but he tendered the amount of the medicines, at the apothecaries' usual price. The practitioner persisted in demanding the whole sum, and, on this, issue was joined.

Lord Tenterden, before whom the cause was tried, was of opinion, that on every ground of reason and justice,—for the respectability of the profession and the safety of the patient,—the medical man was entitled not only to charge for the drugs he might have occasion to use, but to demand a fair remuneration for the employment of his time and the exercise of his skill: and the jury gave a verdict for the plaintiff to the whole amount.

The importance of this decision is duly appreciated by the general practitioner; not as increasing his emolument, for in the majority of cases that will scarcely be affected, but as relieving him from many a source of annoyance and self-degradation; as giving a new character to his profession, and elevating him to a desirable and deserved rank in society.

The veterinary surgeon, although an inferior member, yet a member of the medical profession, is deeply interested in this decision. He, too, is, of necessity, *a general practitioner*, for there is and can be no distinction of surgeon and apothecary among us; and there is reason to hope that the dictum of the judge and the verdict of the jury would fully reach him. Our friend

Mr. Sewell, of Brighton, did, we believe, establish his claim to a remuneration for visits as well as medicines; but others had attempted it and had failed.

What is the usual nature and character of the veterinarian's practice? He is consulted respecting a horse supposed to labour under some disease. He has one, two, or three miles to travel to see him. He finds, on examination, that a physic or diuretic ball, with a little rest, and a few mashes, are all that is required to restore the animal to health and work. But will the price of this ball fairly remunerate him for his trouble? Could he even get *bread* for his family? What is the most conscientious practitioner to do? He has a right to obtain a just equivalent for his attention and advice, and how must he obtain it? Not by doing any thing to injure or torture the poor animal, but by sending more medicine than was wanted, and by doing several little things that might as well be let alone. What is the consequence of this? The owner sometimes begins to suspect that he is making a job of the business; and he becomes discontented, and is loth to employ the surgeon another time, and who thus suffers both in reputation and profit.

His bill—what is it?—why a very fair one in amount; scarcely a compensation,—not a compensation for his labour and anxiety: but its items are composed of moving of plugs, and dressing of blisters, and rubbing in of oils, and administering of clysters, and balls, and drenches, and lotions, and many such like things, savouring of the old farrier's school, and fatal to the respectable character we would assume, and to the assumption of which we are entitled.

There are certain broad lines which mark the various grades of society, and custom has stamped them with authority. This retail way of conducting our profession,—these worse than chandler's shop accounts, must necessarily exclude us from the circle in which we aspire to move; or if, by courtesy, a few of us should be suffered to cross the line, unusual private worth, or literary or scientific attainments, must be our passport, and that of most precarious tenure and value.

The medical profession was the last that was recognised. At

this, considering the history of early times, and the character of the early practitioners, we scarcely wonder: nor, perhaps, ought we to wonder or complain that its advance in public estimation has been so slow. The higher branches of the medical profession have now, however, been enabled to vindicate their just and natural claims. If they have not a legal title to an adequate honorarium for the exertion of their skill, common consent, more powerful than any written law, has secured it to them; and common consent has likewise sanctioned their demand to mingle with the noblest of the land.

The inferior branches of the clerical and legal professions have long reposed under the protection of the legislature, and of common opinion. To the clergyman a vested property has been assigned, of which neglect of duty can scarcely deprive him. The solicitor may demand his fee for every visit, and for the most trifling advice. Their subsistence is grounded on, or connected with, the exercise of their intellectual and moral powers; but the general practitioner was the tradesman still: neither law nor custom would grant him aught beyond what he could demand as a *retailer of drugs;* and both united to trample upon him and degrade him. They made him what he was, and then condemned and punished him for being what they had made him.

To us, poor veterinary surgeons, from our later emergence from absolute barbarism, and the nature of a portion of our practice, and the scandalous imperfection of our education, and the rooted and too-well-founded prejudices of the community, all this more powerfully and more painfully applies; but the decision in the case of Handley *v.* Henson, so important to the *general practitioner*, gives us likewise the opportunity of liberating ourselves from this thraldom, and that worst thraldom of all, a consciousness of self-degradation. Several respectable practitioners have attempted it again and again. The accounts which they have delivered to their employers have borne considerable resemblance to that of Mr. Handley, or have been drawn up in a more summary, and a better way; but these spirited individuals have been so opposed by the practice of the generality of their brethren, and the prejudice and want of principle of some of those

on whose animals they practised, and the absence of legal authority in their favour, that they have been obliged, in a considerable degree, to modify, or rather to nullify their plan, and, in some instances, to abandon it altogether.

An opportunity now offers for the profession, by general consent, and one simultaneous effort, to rid themselves of this source of debasement. Why may not the veterinary surgeon's claim, in future, run thus, "For medical attendance on such a case, from such to such a date?" Then the sum,—shall it be arbitrary, or depend on the whim and caprice of the moment? No——while we do justice to ourselves let us not be unjust to others. At the beginning of our ledgers, or in some place, or under some form accessible to our employers, let us have a scale of charges for visits according to the distance, or time occupied, and for operations, and manipulations, and medicines of all kinds: let an account be entered in our day-book of all that we do; and then let the sum appended to our demand be the actual sum of what we have done, and, as nearly as possible, the sum which we are accustomed to charge in our present despicable way of doing business. We should then have the satisfaction of acting honourably towards others, while we vindicated our own honour; and we should have a ready answer to give, a ready justification to plead, in those cases which too frequently happen to the most scrupulous among us—they who have benefitted by our skill afterwards refusing adequately to remunerate it.

The owner would have abundant reason to be satisfied with the change of system, in our more frequent, personal, and careful attention to the disease; in the absence of inconvenience and annoyance from the continued intrusion of our servants, and the forcing of drugs; and, in almost every case, the more rapid recovery of the animal; and we, eventually, should in a pecuniary way profit by the change, for we should be more highly esteemed, and oftener employed.

We throw out these hints for the consideration of our brethren. We have been strenuous advocates for reform in veterinary *education;* and we now point out a way in which veterinary *practice* may likewise be reformed. By their joint influence we might

sooner, and more generally, occupy our proper rank in society: but this we shall never do while we are sent into practice unprepared and untaught; and by this vile system of charging for balls, and drenches, and dressings, are voluntarily and obstinately degrading ourselves.

"Culpâ suâ damnum sentiens, non intelligitur damnum pati."

Extracts from Journals, Foreign and Domestic.

Library of Useful Knowledge.—The Farmer's Series.

The Horse.

We give an extract or two from No. IV of this work, just published. They may not be uninteresting to our readers. The author had spoken of the connexions of the bones of the nose. He thus proceeds.

"The nasal bones are rounded, and arched above, because they are exposed to occasional violence and injury, which the arch form will enable them best to resist; and at the base of the arch, where the main strength should be, they are over-lapped by the upper jaw bone, as we have described the temporal bone overlapping the base of the parietal. These bones form a principal part of the face; and the length or shortness, and the character of the face, depend upon them. They mainly constitute the striking difference between the head of the cart and blood horse.

"In some horses, this arch is more than usually developed, and there is, beside, a prominence or increased archedness about half-way down the nasal bones. These horses are said to have Roman noses, because this arch of the nose distinguishes the profile of some of the most celebrated of the ancient Romans. We cannot say that the breed of horses in which the Roman nose usually occurs, possesses superior sagacity or courage; they are generally easy, good-tempered horses, hearty feeders, and hardy constitutioned, but possessing little blood. Many thoroughbred horses have a peculiarity the reverse of the Roman nose. There is a depression or hollow about the middle of the nasal bones. Although this be a characteristic of breeding, it often accompanies an uncontrolable and vicious temper."

Having described the cavity of the nose, and its contents, as connected with the sense of smell, and with the voice, he goes on:—

"The extension of the nostril at the lower part of these cavities is an important part of the face, and intimately connected with breeding, courage, and speed. All the air which goes to and returns from the lungs must pass through the nostrils. In the common act of breathing, these are sufficiently large; but when the animal is put on his speed, and the respiration is quickened, these passages must dilate, or he will be much distressed. The expanded nostril is a striking feature in the blood-horse, especially when he has been excited and not over-blown: and the painful and spasmed stretching of this part, in the poor over-driven post-horse, will shew how necessary it is that the passage to the lungs should be free and open. The nostril should not only be large, but the skin and substance which cover the entrance into the nose should be thin and elastic, more readily to yield when the necessity of the animal requires a greater supply of air, and afterwards to return to their natural dimensions. Therefore, nature, which adapts the animal to his situation and use, has given to the cart-horse, that is seldom blown, a confined nostril, and surrounded by much cellular substance, and a thick skin; and to the horse of more breeding, whose use consists in his speed and his continuance, a wider nostril and much more flexible. The inhabitants of some countries were accustomed to slit the nostrils of their horses, that they might be less distressed in the severe and long continued exertion of their speed. The Icelanders do so to the present day. There is no necessity for this, for nature has made ample provision for all the ordinary and even extraordinary exertion we can require from the horse*. Some very powerful muscles proceed from different parts of the face to the neighbourhood of the nostrils, to draw them back, and dilate them.

"There are also four distinct cartilages attached to the nostrils, which, as soon as these muscles cease to act, by their elasticity, bring back the nostrils to their former dimensions. The bones of the nose are also sharpened off to a point, to give wider range for the action of the muscles; while the cartilages are so contrived as not only to discharge the office we have mentioned, but to protect this projection of bone from injury.

* De Grey, whose "Complete Horseman," was published in 1657, recommends that a stumbling or crippled horse should have his nose cut open, and the two tendons which go to the lip divided; and "this," says he, "will give him the use of his legs so perfectly, as that he will seldom or never trip any more." Farriers adopt many absurd and cruel practices now-a-days, but nothing half so barbarous as this.

"There are two circumstances, which, more than any others, will enable the veterinary surgeon, and the owner of a horse, accurately to judge of the character and degree of many diseases, and to which very few pay sufficient attention; these are the pulse, and the colour of the membrane of the nose. It is the custom of most veterinary surgeons, and of almost every horseman who takes any pains to ascertain for himself the state of his sick horse, to turn down the under eye-lid, and to form his opinion by the colour which its lining presents. If it be very red, there is considerable fever; if it be of a pale pinkish hue, there is little danger. The nose is more easily got at; the surface presented to the view is more extensive; the sympathy with almost all the important organs is greater; and the changes produced by disease are more striking and more conclusive. Let the reader first make himself well acquainted with the uniform pale pink appearance of that portion of the membrane which covers the lower part of the cartilaginous partition between the nostrils when the horse is in health and quiet; then the increased blush of red, betokening some excitement of the system; the streaked appearance of inflammation commenced, and threatening to increase; the intense florid red of acute inflammation; the pale ground with patches of vivid red, showing the half-subdued, but still existing fever; the uniform colour, although somewhat redder than natural, predicting a return to a healthy circulation; the paleness approaching to white, marking the stage of debility, and sometimes intermingled with radiations of crimson, inducing the suspicion of lurking mischief; and the dark livid colour of approaching stagnation of the vital current: these, with all their shades of difference, will be guides to his opinion and treatment, which every one who has studied them will highly appreciate.

VETERINARY MEDICAL SOCIETY.

JANUARY 14, 1830.

Mr. W. Goodwin *in the Chair.*

Some business having preceded, and the hour being late when Mr. Youatt's paper on the Distemper of Dogs was read, the discussion of it was merely conversational.

In reply to various questions, Mr. Youatt stated that he had never endeavoured to produce the disease by the transfusion of blood; and that he had long given up inoculation with the matter of distemper, because, even taken in an early period of the malady, and when the discharge was not purulent, it had uniformly

produced a far more virulent disease than the natural one. He said that distemper was an affection of the mucous membranes, and of the Schneiderian primarily, although the glandular system was afterwards generally affected. The glands of the neck, which were substituted for the thyroid gland of the horse, were usually, and the mesenteric glands often, exceedingly enlarged.

There was no peculiar appearance of the brain or its membranes, except effusion of serous or bloody fluid at the base of the brain. He did not have recourse to blisters, when the disease was attended with much pneumonic affection, for they sadly irritated the dog, and were very difficult to manage. He did not use tar externally on the nose, because the exhibition of it seemed absurd, nor had he given it internally. Mr. Slocombe said that it acted as an emetic when given internally. Mr. Youatt did not give turpentine, because it seemed impossible to administer it to the dog without injurious consequences. He had seen two dogs destroyed by it, as quickly as by prussic acid. Iodine he had never tried—sulphur acted only as a gentle aperient, with some determination to the skin. He had not seen benefit either from the cold or warm bath. To Turpeth's mineral he had a decided objection; it was a violent emetic and cathartic, and we had better drugs for both purposes.

Mr. Spooner had given calomel and emetic tartar to the lion, in doses of four grains of the former, and two of the latter. They acted powerfully as an emetic first, and afterwards as a purgative. To a leopard with a disease very similar to distemper, and attended with husking, cough, heaving at the flanks, and discharge of mucus from the eye, he had given the emetic tartar, and digitalis with good effect. He likewise gave Turpeth's mineral in half grain doses, and he thought with advantage.

Mr. Youatt stated that on two occasions he had given the antimonial powder with nitre and digitalis to lions labouring under a disease very similar to distemper in its early stage, and afterwards assuming the form of phthisis or consumption; but both the animals died.

THURSDAY, JAN. 28, 1830.

The first part of Mr. Goodwin's paper relating to the Navicular Disease was read. Our readers will find it at page 145 of the present number.

Mr. *W. Percivall* observed, that Mr. Turner had considered contraction as the ordinary cause of the navicular disease. Mr. Goodwin was of a contrary opinion, and had produced several

specimens which went far to make him suspect this part of Mr. Turner's theory. From the inactive state in which the parts were placed by the suspension of their function, they became hard, unyielding and inelastic; and the synovial membrane underwent sufficient injury to cause inflammation, from being squeezed between two hard bodies, the bone above and the bars beneath.

Mr. *Turner* thought Mr. Percivall's speech most extraordinary. First, he differed from him as to the cause of the disease;—he then expressed his approbation of Mr. Goodwin's opinion; and, after all, adopted his (Mr. Turner's) own language in describing the origin of the disease, for he talked of the rigidity of the horny frog, and the bruising of the synovial membrane. This is the very essence of the thing. The principal disputed point however, appeared to be whether the navicular disease were connected with contraction. He imagined that the frog and bars, and that portion of the sole towards the heels becoming rigid and inflexible to all intents and purposes constituted contraction, and that without any apparent external contraction in the general form of the foot. If the coffin bone and bars were raised farther from the ground than their natural position, the cavity of the hoof was lessened, and this was contraction. The frog being confined, prevented the natural up and down motion of all the parts surrounding the navicular bone, and which being continued the synovial membrane could not but be injured.

Mr. *W. Percivall* by contraction understood the lessening of the superficies of a thing, or the approximation of the two ends, or of the walls of a cavity. If this was not found, there could be no contraction. In the specimens on the table, there was neither shortening of the foot, nor narrowness of the heels, nor elevation of the frog; in fact, there was no contraction. As to the rigidity of the frog and bars, he did not mean to dispute this,—it seemed to be necessary to produce the disease. The point for consideration is the existence of the occult contraction of which Mr. Turner speaks.

Mr. *Goodwin*.—The specimens on the table shew that occult contraction is not the invariable cause, and I do not believe that it is the usual cause of navicular disease. Here is the hoof of a horse that was lame three years without the slightest contraction. The horse to which this hoof belonged was fourteen years lame, and fit only for cart work, and was remarkable for the perfect form of his feet. The contents of the hoof were macerated out; it was then filled with plaister of Paris, and its shape accurately preserved.

Mr. *Turner*.—But these were instances in which both feet were affected. The horse had not been induced to bear his

weight on one foot more than the other, and therefore there was not the alteration of form which is seen in the diseased foot.

Mr. *W. Percivall* observed, that Mr. Turner had before contended that contraction was the forerunner, instead of the consequence of disease.

Mr. *Goodwin*.—Here is the foot of a John Bull mare, who was unnerved for this disease. The tendon gave way, and she was destroyed. There is not the slightest contraction. It is a flat foot.

Mr. *Henderson*.—Are not horses with flat feet subject to navicular disease?

Mr. *Turner*.—Certainly not, so much as others.

Mr. *Goodwin*.—Mr. Turner and I disagree principally about the commencement of the disease. He imagines, that, except in the case of bruise, contraction is the precursor symptom. I affirm that the horse is subject to this disease, whatever be the form of his foot. I give Mr. Turner the credit of having first shewn the origin of the navicular disease. A horse stands several days in the stable. His frogs become hard, and when he begins to work, the joint is bruised and inflammation ensues: but there is no necessity for contraction or thick sole. If a man brings a lame horse to me, I examine him carefully: I use all my "tact, talent and discrimination." I take him to the forge, and have the foot pared out, and search the nail holes and compare the feet; then turn him into a box, put on the poultice boot, bleed him, and a few days afterwards examine him again to see whether he has become sound. Mr. Turner would take several quarts of blood from the toe, and follow it up by the whole of the severe treatment he has described.

Mr. *Goodwin* said that he had now two horses with navicular lameness; one a beautiful coach horse, which, on coming home from the last Ascot races, fell very lame. No cause of lameness could be discovered. He was bled, physicked, poulticed, bandaged, and at the expiration of a week was still lame. He was then bled at the toe, poulticed, physicked, and put on low diet: at the end of a month he was as lame as ever. The foot was once more pared, and the former measures repeated, and at the expiration of two months the lameness was much diminished. The horse was then turned out, and became perfectly sound; but in walking him home he again fell as lame as ever. An alteration of the foot had then commenced, and the contracted heel and elevated bar, and all Mr. Turner's *precursor* symptoms had appeared; but "no tact, or talent, or discrimination," could have predicted the course of the disease. He has a thorough-bred horse under his care, with suspicious-looking feet. A month ago

he fell decidedly lame. All the usual methods were adopted, and as soon as the frost broke the shoe was put on, and the horse found to be as lame as at the first; and now, too, there began an alteration of the lame foot—the inner quarter was contracted and the toe lengthened, and the sole became concave. Then he began to adopt the plan recommended by Mr. Turner;—but these symptoms were consequent on, not antecedent to the disease, and no "tact, or talent, or discrimination," could have predicted their appearance. In truth, these precursor symptoms are never found. They indicate the existence and progress of the disease—they are the consequence of the disease, but they do not precede its attack. This is one point of difference between him and Mr. Turner; and the introduction of these imaginary precursor symptoms much lessened the value of a treatise on a previously unexplained and obstinate disease.

Mr. *Turner* hoped that Mr. W. Percivall would perceive, from Mr. Goodwin's very candid explanation, that he had much misunderstood and misrepresented him.

Mr. *W. Percivall* could have no wish to detract from the acknowledged merit of Mr. Turner, as it regarded the discovery of the navicular disease, but he really did imagine that the question respecting these precursor symptoms was now set at rest.

Mr. *Goodwin* would be glad if Mr. Turner would explain his reason for rasping the toe in order to increase the obliquity, he should have said the perpendicularity, of the foot.

Mr. *Turner* would first reply to some remarks on the commencement of the disease. The first indication of cure was to depress the coffin bone; but to prepare for this he commenced by thinning the bottom of the foot and bleeding; in other words, by abating inflammation. Having abated the inflammation, he has recourse to the means best adapted to bring the navicular and coffin bones back to their natural situation. As to contraction; if the heels of the coffin bone are elevated, there must be contraction. In proportion to the elevation of the frog and bars, there must be contraction. If the cavity of the foot is lessened, that is contraction.

Mr. *Goodwin* said that Mr. Turner's first indication of cure was the depression of the coffin and navicular bones: now he denied that there had been any elevation of them, and he called for the proof of this elevation. Mr. Turner rasps the toe to bring the weight on the navicular joint; but if that joint be previously sore, and the toe be made sore, the horse will not bring his weight any where: or if he is compelled to throw his weight on the navicular joint, it will be at the certain expense of much pain and increased inflammation. To bleed at the toe to abate in-

flammation, and then to give walking exercise, which will renew the inflammation, and then again to bleed to take it away, is a mode of treatment which he cannot understand; and to exercise a horse with inflammation of the synovial membrane of the navicular joint is unsurgical and absurd.

Mr. *Turner* had not been fully understood. If he gently exercised, or he might say slightly moved, a horse after four or five days' confinement, although he might know that it would be then necessary to bleed again, he might be justified, from a regard to the general health of the animal. It is not safe for a horse to be kept in a confined stable for eight or nine days, for he would incur worse risks in other respects; and when the horse was taken out it was on the softest surface, and he was walked as gently as possible, and that for not more than half an hour. As to subduing the inflammation by the first bleeding, he could rarely flatter himself that he accomplished it. He has partially relieved the horse, but then comes the critical time; the hoof has been thoroughly suppled and relaxed by his emollient dressing; it may be moulded almost in any form; and then he compels the horse to bring his weight immediately on his heels, that the coffin and navicular bones may be forced down while the hoof is thus relaxed; and if he does produce some return of inflammation, as perhaps he does, he relieves it by the second bleeding. He is convinced that the cure can consist only in the return of the bones to their natural situation. With regard to shortening the toe to produce obliquity of the foot, he does not understand this; he has not used the term—he has only spoken of transferring the weight from the fore to the back part of the foot, and thus forcing the bones downward; and if he does rasp at the toe, he likewise reduces the heels as low as he possibly can.

Mr. *Goodwin*.—Still Mr. Turner has not justified the seemingly absurd and unsurgical practice of giving that exercise which will necessarily cause the return of the inflammation, and to abate which he is obliged to bleed a second time.

Mr. *Turner*.—It is not so much to abate the inflammation caused by the exercise, as completely to remove the primary inflammation, which the first bleeding might only have partially relieved.

THURSDAY, FEB. 11, 1830.

Mr. *Goodwin* read the latter part of his paper on the nature and treatment of Spavin; but the discussion reverted to Mr. Turner's theory and treatment of the Navicular Disease, when that gentleman read the following reply to Mr. Goodwin's animadversions on him at the last meeting.

Preparatory to the production of some morbid specimens illustrative of the occult contraction, I beg to read to the Society a few remarks thereon.

At our last meeting Mr. Goodwin expressed a doubt as to the *existence* of the disease which I have attempted to describe as antecedent to navicular lameness; and retorts upon me, that he has exercised all his "*tact, talent, and discrimination,*" in vain to find it; but this gentleman, with his usual candour, has acknowledged, that, on being called to the commencement of navicular lameness, confined to one foot, he has not been in the habit of removing the shoe, at the same time, from the sound foot, for the express purpose of accurately comparing them, and contrasting the hollow base or ground surface of the lame with that of the sound foot, on the removal of an equal quantity of horny sole from each; and therefore I mean to say, that Mr. Goodwin has not availed himself of a very important criterion in his investigation, viz. the comparative difference between the two feet, as it regards the elevation of the coffin bone from the ground or within the hoof.

We are not, however, to expect navicular lameness to accompany every case of the occult contraction, as its presence depends more on the suddenness with which the horny cavity is lessened than on the actual loss of space sustained; for instance, both fore feet may become affected at the same time with this species of contraction from below upwards by very slow degrees, originating merely in an inordinate strength of hoof, depriving the sole of its natural flexibility, and causing an undue ascent of the bars and frog, or a morbid protrusion of these parts. But the animal not being further exposed by long confinement in his stall, and having his daily exercise or moderate work, Nature sometimes effects a corresponding alteration in the shape of the coffin bone, by absorption, which renders its inferior surface preternaturally hollow, more particularly at the heels, and thus it is enabled to descend under the impression of weight, although imperfectly, yet enough to avert that contusion or bruise of the synovial membrane of the navicular joint to which this delicate tissue is subject when opposed in its descent.

With reference to the treatment I have recommended, Mr. Goodwin cannot see in what way the excision of the incurvated quarter of the crust at the *inside* heel can facilitate the return or depression of the *outside* heel of the coffin bone. If Mr. Goodwin had a solid body embraced by a vice, and he wished to loosen its hold, it certainly would be necessary to move only one cheek or gripe of the vice for that purpose: in like manner the inside heel or wing of the coffin bone is frequently hampered by the

hoof, this deformity of crust acting as a trap. Its removal therefore also renders the compressing power of the opposite quarter nugatory.

Mr. Goodwin has severely censured that part of the treatment in which I allow the patient to be walked in hand very slowly, for exercise, on a soft surface, as a well littered ride, so early as within three or four days after the blood-letting operation. This will not be found inconsistent with my method of cure, when it is considered that I attach great importance to the detrusion of the coffin and navicular bones, as well as to the subduing of the inflammation of the joint: and it being obvious that this end could only be accomplished by the superincumbent weight of the animal himself, it strikes me as a critical period for adding slow motion to the weight, just as the joint has been relieved from pain and inflammation, and whilst the inside quarter of the hoof remains as thin and flexible as wet paper.

Mr. *W. Percivall* begged Mr. Turner to understand, that he gave him full credit for the discovery of the nature and seat of the navicular disease. He only lately became acquainted with it; but having become acquainted with it, he must differ from Mr. Turner in some important points. Mr. T. had observed, that the ordinary cause of groggy lameness was the navicular disease. When there was no apparent cause of lameness, it was attributed to an affection of the navicular joint. This was carrying the thing much too far; and the ordinary cause of navicular disease was contraction, and that contraction which at the college we used to call, from below upward. Am I right?

Mr. *Turner*.—Mr. Coleman certainly talked of the contraction from below upward; but he confined his remarks to the sole: he never adverted to that which is the bane of the foot: but he overlooked the fixed elevated state of the bars and frog, and the increased depth of the commissures.

Mr. *W. Percivall*.—Mr. Turner has stated that this is the general cause of the navicular disease.

Mr. *Turner*.—Occasionally it will commence in a foot of the reverse shape; but it is the general cause.

Mr. *Percivall*.—So far from its being the general cause, I consider it as merely incidental, and much oftener the effect of the disease than the cause. It arises more from the state of inactivity into which the different parts of the foot get from the horse remaining long without exercise. The parts below the navicular joint become motionless, inelastic, fixed or absorbed, and the membrane covering the navicular bone becomes bruised by them.

Mr. *Goodwin* still thought that contraction was subsequent not antecedent to the navicular disease. The two cases to which he

referred at the last meeting confirmed him in this opinion. The alteration of structure occurs after the disease; and therefore it does require more than usual "tact, talent, and discrimination," to find out what will be the future state of the foot. Mr. Turner had asserted that he did not resort to the proper means to ascertain the real state of the feet. He affirmed that he did. He had both feet well pared out, and he very carefully examined them. Mr. Turner must not imagine that because there is a difference in the feet, there must be disease in one of them. Few horses have both feet perfectly alike. He recollected a stallion that had one upright and one concave foot, and that was never lame. His progeny had the same peculiarity, and without lameness. Mr. Turner had then referred to what had been said of his operation for the supposed unfettering of the navicular bone, and now illustrated the removal of the bar and crust on one side, by the loosening of one side of a vice, by which any interposed substance was liberated. The cases, Mr. Goodwin said, were not analagous, for there would remain the bar on the other side to keep up the bone; and therefore the descent, if such there was, would be an irregular one, and worse than no descent at all.

Mr. *W. Percivall.*—Mr. Turner should first prove to us that there is contraction as a cause of navicular disease, and then that there is actual displacement.

Mr. Turner then produced some specimens, one of a healthy foot with the natural situation of the coffin bone, and another of a foot in which the navicular disease had appeared, and where the coffin bone was perceptibly elevated.

Mr. *W. Percivall.*—Admitting for a moment that there is here actual displacement, what does Mr. Turner mean? Is the coffin bone actually shoved up into the hoof? Does it occupy a different situation from that which it naturally fills?

Mr. *Turner.*—The coffin bone is suspended in the hoof, by some hundred elastic springs: when the horse is in motion, these springs are continually elongating and contracting; but if he is at rest for a considerable time, and no force is applied in addition to his simple weight, they become partially fixed; and then, the animal feeling pain in the posterior part of the foot, a bias is given to the front of the foot, and the heels of the coffin bone are elevated in the horny box, and farther removed from the ground.

Mr. *W. Percivall.*—This is no answer to my question. Mr. Turner has just shewn us two specimens, in one of which the coffin bone appears to be higher than in the other. Does he mean to say that the laminæ have slid upon each other, and that the coffin bone is actually raised?

Mr. *J. Turner.*—There is no disunion between the laminæ, but,

for want of these springs not being on the stretch, the crust has not had a direction downward, and therefore the coffin bone occupies a higher part in the foot than nature intended that it should.

Mr. *W. Percivall.*—Can it rise without any actual displacement?

Mr. *Turner.*—In proportion as the laminæ lose the natural pressure from above, they will not receive their natural extension, and the horn will be secreted higher up than where nature had placed it.

Mr. *W. Percivall.*—That would apparently bury the coffin bone. Does Mr. Turner mean to say that the bone is *displaced?*

Mr. *Turner.*—I do not mean to say that there is any displacement, but the bone is higher from the ground; or there may be displacement, but no disunion.

Mr. *Goodwin.*—Then all the bones must be out of their place, and the heels of the coffin bone must likewise be elevated.

Mr. *W. Percivall.*—Two pieces of wood united together, cannot get out of the parallel without some motion between them. If the coffin bone be elevated, there must be displacement. The coffin bone has moved upon the hoof, or the hoof upon it.

Mr. *Henderson.*—The coffin bone is suspended by these elastic laminæ, but in consequence of contraction and rest it does not properly descend, and so in time assumes a fixed situation higher than nature intended.

Mr. *W. Percivall.*—We appear to see more of the coffin bone in one specimen than the other. How has it arisen? by displacement, or by growth? or by the motion or absorption of the hoof?

Mr. *Turner.*—Even the pastern bone is also elevated.

Mr. *Goodwin.*—But if the anterior portion of the foot be elevated, the posterior is depressed.

Mr. *W. Percivall* did not believe that there was any *displacement* between the hoof and the bone. The coffin bone may occupy a very different position. It may become more oblique: if the heels are raised, the anterior part may be depressed, or there may be absorption. The resolution of the whole difficulty is probably this, that in a foot of altered shape there must be a corresponding alteration or absorption of the coffin bone. This may be the apparent rising of the bone, and this may explain Mr. Turner's occult contraction. Displacement is an erroneous term. Mr. Turner tells me that I shall never alter his opinion. I neither expect nor wish it, but I wish to put it upon record that I differ from him in his theory of the disease, and still more materially in the treatment of it. As I do not believe that contrac-

tion is the usual cause of the navicular disease, I must totally dissent from that part of the treatment which hinges on this contraction. I approve of the bleeding, and the other means taken to abate inflammation; but I should be very loath to submit my horse to all that Mr. Turner recommends.

Mr. *Turner* observed, that there was an eminent practitioner who had been the zealous advocate of the screw-shoe, and under his management many horses had worn it even for a twelvemonth. The screw-shoe had failed. If he thought he could expand the foot in half the time usually devoted to the screw-shoe, he surely had a right to pursue his own plan: after he had for a sufficient period enveloped the foot in mucilage, and properly prepared it at the quarter and the toe, he could pull it asunder as easily as he could a cloven foot; and if at some future time his plan was not generally adopted, he knew nothing of the horse.

Mr. *W. Percivall.*—Mr. Turner has failed to shew that contraction is a primary circumstance.

Mr. *T. Turner* asked whether, supposing a horse was examined whose feet, to the eye of the experienced veterinarian, put on the occult appearances of navicular disease, and indicated that there was something wrong in the internal structure, the mode of treatment recommended by his brother did not seem to be indispensable; provided the owner did not object to the time necessary to reproduce the horn. He thought the plan proposed was likely to effect all that could be done with such feet.

Mr. *Goodwin* confessed his experience was contrary to that of Mr. T. Turner; indeed he was assured that in the great majority of cases there were none of these occult appearances. The disease will however very speedily produce disorganization. Altered shape is the consequence and not the cause of disease. Mr. Turner had not distinguished between the chronic and acute disease. It seemed that in either he would bleed at the toe, or cut away the heel. He would say, put the horse into a loose box, and pursue the plan he had already detailed, and in nineteen cases out of twenty he will get sound.

Mr. *Turner* still believed that it was of the utmost importance to attend to the hollowed form of the foot, but of which Mr. Percivall and Mr. Goodwin seemed to think so lightly. He believed, however, that many of these cases commenced in parts exterior to the joint, and even on the very surface of the foot, but the joint became gradually affected.

Mr. *W. Percivall.*—The principal consideration in all these cases is to abate inflammation. While Mr. Turner opened the foot below, he used additional pressure above, in order to get this coffin bone down into its former place. Would it not be better to

take off all weight and pressure from the part? for we know the sensibility of an inflamed surface. He would place the diseased parts as much as possible in a state of rest; and when the inflammation had perfectly subsided, it would be time enough to consider how far treatment of another kind might be requisite.

Mr. *Turner*.—One would suppose that Mr. Percivall deemed it expedient to put every horse labouring under this disease into a sling.

Mr. *Percivall* would certainly put every inflamed part into a state of rest, and particularly a part so sensitive as a synovial membrane.

Mr. *Turner*.—I have not ordered the horse to be trotted. I take him out on a surface as soft as I can make it, and slowly walk him for half an hour. I have an important object to accomplish by this, for I have now softened all the parts of the foot so that I can easily bend them, and return the coffin bone to its situation, and I have previously subdued inflammation by bleeding. While I am doing this, I scarcely give the horse more exercise than he would take in a loose box. What milder treatment can I adopt, unless I sling him?

Mr. *Goodwin*.—I hope Mr. Turner will forgive me for differing so decidedly from him, and believe that I mean nothing personal; but I must contend that the practice which he recommends is most unsurgical and indefensible. He finds very great inflammation. He bleeds at the toe to abate that inflammation, and on the third or fourth day he commences walking exercise. Let the ground be ever so soft, he throws the weight of the horse upon an inflamed surface, and he must necessarily renew, or prolong, or aggravate the inflammation: nay he himself is convinced of the danger which he incurs, or the mischief which he may effect, for a day or two afterwards he bleeds largely again. What would any one think of the surgeon, who for sad lameness in the knee first applied leeches, and then ordered the patient to walk about?

Mr. *Turner*.—If I had only one object to accomplish, the observations of Mr. Goodwin might be difficult to answer; but while I am abating inflammation, I am endeavouring to restore the structure of the part. I should be leaving the thorn in the foot, if, after I had relieved the lameness, I did not attempt to bring the bones back to their natural position.

Mr. *W. Percivall*.—What is the essence of the navicular disease,—inflammation or displacement?

Mr. *Turner*.—Inflammation undoubtedly.

Mr. *W. Percivall*.—Then all unavoidable motion in an inflamed part is unsurgical and injurious. It is decidedly wrong. It is perfectly irreconcilable with every principle of surgery.

Mr. *T. Turner*.—Does not Mr. Percivall think that, after the abstraction of a large quantity of blood, the vessels would be so relieved, and the joint so freed from inflammation, that the horse would bear this gentle walking exercise?

Mr. *W. Percivall*.—Mr. Thomas Turner must be aware that, although large depletion does sometimes succeed in knocking down inflammation, it often fails; and where it has apparently succeeded, the inflammation is apt to return, and it is the duty of the surgeon to avoid every circumstance which may lead to a return of the inflammation. Allowing that, by the large depletion at the beginning of the treatment, the inflammation may be abated, common sense says, that, if you walk him out, you run a risk of bringing it back.

Mr. *T. Turner* said, that in several recent cases of navicular disease that had come under his treatment, such decided benefit was derived from the first bleeding, that the horse bore his whole weight on the lame foot.

Mr. *Henderson* had no doubt of the good effect of the first bleeding, but Mr. Turner himself seemed to fear that he should undo this by his walking exercise, for he recommends a second bleeding after that exercise. He could not but regard it as a very unsurgical practice.

Mr. *Turner* repeated that he had a second object in view by this exercise, namely the depression of the coffin bone. His treatment does not commence with this exercise, but with the abstraction of blood; and then he gently walks him, that his weight, assisted by a little motion, may restore the parts to their natural relative situation.

Mr. *W. Percivall* moved that this discussion be resumed at the next meeting.

TO CORRESPONDENTS.

A press of matter has compelled us to omit our Review, and the articles on the Veterinary Materia Medica and the Diseases of Cattle; and also Communications from Messrs. KARKEEK, C. PERCIVALL, and PROCTOR.

THE

VETERINARIAN.

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ANATOMY OF THE HORSE.

[Continued from page 124.]

MUSCLES OF THE THORAX.

1.—DORSO-SCAPULAR REGION.

THE muscles included in this region form three of the principal agents concerned in the motions of the scapula.

TRAPEZIUS.—*Dorso-acromialis.*

Situation.—Upon the side of the withers.

Figure.—A right-angled triangle; with the base turned upwards, and the right side forwards, in a parallel line with the spine of the scapula.

Attachment.—Superiorly, to the spinous processes of the 3d, 4th, 5th and 6th dorsal vertebræ, and from the ligament and faschia investing them; inferiorly, to a small tubercle upon the spine of the scapula.

Relations.—Superiorly, it covers the rhomboideus brevis; in its course, downward, it passes over the posterior costa of the scapula; and also the postero-superior angle of the latissimus dorsi: inferiorly, it lies upon the aponuerosis enveloping the dorsum scapulæ.

Direction.—Perpendicular: excepting the posterior fasciculi, and they slant forward, in their course downward.

Structure.—Superior attachments, aponeurotic; below, it ends in a flat triangular tendon; the intermediate parts are entirely fleshy.

Action.—To elevate the scapula: and, when the *posterior* fasciculi prevail, to incline the bone at the same time, backwards.

LATISSIMUS DORSI.—*Dorso-humeralis.*

Situation.—Upon the supero-lateral part of the chest, behind the scapula.

Form.—Flat, thick, an extended triangle, presenting its base towards the spine.

Attachment.—Superiorly, to the spinous processes of the dorsal vertebræ, and to the ligamentum colli (vel potius, *dorsi)* investing them; stretching as far forwards as the highest point in the withers, and as far backwards as the lumbar spines, to some of which it is also connected: inferiorly, to the inner and upper part of the body of the humerus.

Relations.—Superiorly, with the trapezius, rhomboideus brevis and posterior angle of the scapula; inferiorly, with the triceps extensor brachii: externally, with the panniculus; internally, with the ribs and serratus magnus.

Direction.—Oblique: downwards and forwards; the fibres converging in their course.

Structure.—Superior part, a broad and extended aponeurosis; inferiorly, it ends in a long, flattened, thin tendon: the intermediate parts are entirely fleshy.

Action.—To flex the humerus, by drawing it backwards and elevating its inferior extremity.

RHOMBOIDEUS BREVIS.—*Dorso-subscapularis.*

Situation.—Upon the side of the withers: deeply seated.

Form.—Flat and square. Thin, superiorly; thick, inferiorly.

Attachment.—Superiorly, to the four or five anterior dorsal spinous processes, and to the ligament clothing their summits: inferiorly, to the inner part of the superior costa of the scapula and the cartilage surmounting it.

Relations.—Externally, with the trapezius and cartilage of the scapula; internally, with the vertebræ and ribs: anteriorly, it is connected with the rhomboideus longus; posteriorly, it is crossed by the latissimus dorsi.

Structure.—Fleshy: enveloped in a cellular expansion.

Action.—To elevate the scapula.

2.—PECTORAL REGION.

These muscles form the *breast*, or what is vulgarly and absurdly called the *bosom.*

PECTORALIS TRANSVERSUS.— { *Sterno-aponeuroticus.* / *Sterno-humeralis.*

Situation.—Lateral, anterior, and inferior parts of the breast. The pair form the fleshy prominences seen directly from the front.

Form.—An approach to a triangle whose apex has been cut off: broad and thick, superiorly; narrow, inferiorly.

Attachment.—On the inner side, to a white tendinous line, and through the medium of that, to its fellow of the opposite side; also to the four first bones of the sternum: on the outer side, to the anterior part of the body of the humerus, and to the faschia covering the arm.

Relations.—Superiorly, it is connected with the major and minor pectoral muscles; externally it is covered by the skin; internally, opposed to the front of the elbow joint; anteriorly, to the levator humeri.

Direction.—Transverse; incurvating downwards.

Structure.—Inner attachments, as well as fleshy; outer, wholly aponeurotic: intermediate part, fleshy.

Action.—To adduct the arm, and keep it close to the chest during its flexion and extension: this muscle has, probably, more to do in enabling the arm to support weight than to give it motion.

PECTORALIS MAGNUS.—*Sterno-trochineus.*

Situation.—Infero-lateral part of the thorax.

Figure.—Trapezoid; flattened and thick in substance.

Attachment.—Inwardly, to the 4th, 5th and 6th pieces of the sternum, and to the cartilages connecting them; also to the cusiform cartilage, where, through the intervention of a white tendinous line, it becomes united with its fellow; still more posteriorly, to the aponeurosis of the external oblique muscle, and the cartilages of the false ribs: outwardly, it is attached to the lesser tubercle of the humerus and the inner part of the lower end of the scapula.

Relations.—Externally, with the panniculus and triceps muscles; internally, with the aponeurosis of the external oblique, the serratus magnus, and the ribs: inferiorly, with its fellow, and in part concealed by the next muscle.

Direction.—Longitudinal: inclining upwards.

Structure.—Fleshy: only that its anterior end is in part aponeurotic.

Action.—To draw the head of the humerus, and along with it the lower end of the scapula, backwards, throwing the latter more into the upright position.

PECTORALIS PARVUS.

Situation.—Below the former muscle.

Attachment.—Inwardly, to the side of the anterior half of the sternum, and to the cartilages of the first four ribs: outwardly, to the faschia covering the muscles in front of the scapula and shoulder-joint, extending nearly as high up as the place of origin of the antea-spinatus.

Relations.—Superiorly and externally, with the preceding muscle; inferiorly, with the pectoralis transversus; internally, with the cartilages of the ribs; anteriorly, with the levator humeri.

Structure.—Fleshy; excepting its inferior termination, which is aponeurotic. Its fleshy parts are formed into layers, one overlapping another.

Action.—To assist the pectoralis magnus.

3.—COSTAL REGION.

Comprehending muscles which have, all of them, extensive attachments to the ribs.

SERRATUS MAGNUS.— { *Costo-subscapularis.* / *Dorso-costalis.* / *Lumbo-costalis.*

Situation.—Between the shoulder and the side of the chest.

Figure.—In outline, semicircular: fibres radiating from a centre, and forming an indentated or serrated circumferent border.

Attachment.—Anteriorly, to the bodies and transverse processes of the 4th, 5th, 6th and 7th cervical vertebræ; posteriorly, to the eight anterior ribs, as low down as their cartilages, by as many fleshy digitations: outwardly, to the upper and inner part of the scapula, occupying the space between the origin of the subscapularis and the insertion of the rhomboidei.

Relations.—Externally, with the scapula; internally, with the cervical portion of the longissimus dorsi, the cervical vertebræ, and the ribs; inferiorly, with the pectoral muscles; anteriorly, with the splenius; and superiorly, with the latissimus dorsi.

Direction.—The fibres converge from their various circumferent attachments, like the leaves of a fan, to one common focal point, which is its insertion into the scapula.

Structure.—It is covered by a thin aponeurosis which is attached around, principally, to the ribs. The costal portion is fleshy and digitated; the cervical portion is also fleshy; but the part fixed to the scapula is mostly tendinous. The muscle is considerably thicker in the middle than around the circumference.

Action.—It forms the principal agent of support to the trunk, maintaining it and the shoulder in close apposition. These muscles are more or less concerned in all the motions of the scapula; and will become dilators of the chest whenever they are exerted while the limbs remain fixed points.

INTERCOSTALES EXTERNI.

Number.—Seventeen on each side.

Situation.—Filling up the intercostal spaces, outwardly: reaching from the articulations of the ribs with the transverse processes as far as the commencement of their cartilages.

Attachment.—Anteriorly, to the external edge of the posterior border of one rib; posteriorly, to the internal edge of the anterior border of the rib immediately behind the other.

Relations.—On the outer side, with the serratus, pectoral muscles, obliquus externus, and transversalis and superficialis costarum; on the inner side, with the intercostales interni; superiorly, with the levatores costarum.

Direction.—Oblique: from before, backward; and from above, downward.

Structure.—Thick layers of united fleshy fibres included between broad aponeurotic slips of tendon, and in places displaying tendinous intersections.

INTERCOSTALES INTERNI.

Number.—The same as the preceding.

Situation.—Within the intercostal spaces, reaching from the angles of the ribs to the sternum.

Attachment.—To the antero-internal edge of the border of one rib; to the postero-internal edge of the rib immediately before it.

Relations.—On the outer side, with the preceding muscles, and the intercostal vessels and nerves; on the inner side, with the pleura.

Direction.—Oblique: but the reverse of that of the former muscles; viz. from behind, forwards; and from below, upwards: in fact, their fibres decussate each other, like the strokes of an X.

Structure.—They are thinner than the external intercostals; and are thicker in substance, themselves, near the sternum than in the vicinity of the spine, the reverse being the case with the external muscles. They are covered with very thin aponueroses, which separate them from the others. They are entirely fleshy in substance; but paler and more delicate in their texture than the former.

Action.—The intercostal muscles (both external and internal) act upon the ribs to which they are attached, posteriorly: they pull the costal arches forwards, which has a tendency to throw them at the same time outwards; and thus becomes enlarged the calibre of the cavity of the chest.

[To be continued.]

Communications and Cases.

Ars veterinaria post medicinam secunda est.—VEGETIUS.

ON BREEDING.

By Mr. KARKEEK, *of Truro.*

[Continued from p. 18.]

WHEN mankind existed in that rude and uncultivated state which the good Evander describes as the condition of the primary natives of Latium before the introduction of arts and sciences,

> " Queis neque mos neque cultus erat nec jungere tauros
> Aut componere apes norant, aut parcere parto
> Sed rami atque asper victa venatus alebat,"

horses were possessed of social principles; they associated in societies, though not in that gregarious and political union which Aristotle has elegantly termed, "Ζοον Αγελαιον και Πολιτικον," but in societies which depended more on the choice of those that compose them than from any physical necessity. Then the horse, like other wild animals, being capable of choosing his climate and his food, might be considered as existing in his native purity. But man having, in conformity with original appointment, the different animals consigned to his dominion, in proportion as he became civilized, he reduced to his power those which were endowed with properties capable of assisting him in the enjoyments and luxuries of life.

> " Tum laqueis captare feras, et fallere visco
> Inventum; et magnos canibus circumdare saltus."

The first occurrence of the horse being mentioned in the sacred writings is, when Joseph went up from Egypt to Canaan to bury his father Israel: "There accompanied him both chariots and horsemen."

In conformity with this, we, in a former Number of the THE VETERINARIAN, considered the Egyptians, being the first civilized people after the deluge, as the first who tamed the horse. But if any credit can be attached to the Greek historians, it would appear that horses were employed for many years before the period alluded to in the sacred writings.

The Greek tragedian, Æschylus, describes Prometheus as the first man who taught mankind how to render horses obedient to the yoke, either to cultivate the ground or for purposes of luxury:—

" Καζευξα πρωτος εν ζυγοισι κνωδαλα
Ζευγλαισι δουλευοντα, σευμασιν θ' οπως
Θνητοις μεγιστων διαδοχοι μοχθηματων
Γενοινθ', υφ ἅρματ' ηγαγον Φιληνιους
Ιππους, αγαλλια τῆς υπερπλουτον χλιδῆς."

The civilizing, oneirocritick, and medicinal arts, which Prometheus also boasts to have taught mankind, have reference to none but Osiris*, whom the Egyptians considered as the father of mankind. The great artist by whom men were formed anew, and were instructed in all that was good, is no other than *Noah*, whom the Egyptians worshipped as the god Osiris in symbolical representation†.

Noah was unquestionably acquainted with all the arts of the antediluvians; these he naturally communicated to his children, and they again transmitted them down to their posterity.

Egypt was founded, as history informs us, either by Ham, the son of Noah, or, as some authors state, by Mizraim, or Menes, the son of Ham. This fairly accounts for the Egyptians being so early acquainted with the valuable properties of the horse; for had the descendants of Noah been left to their own ingenuity, without any acquaintance with the knowledge of the antediluvian world, it is probable that they would not have subdued this animal at so early a period.

It has been a subject of controversy, whether the primitive inhabitants first used the horse in harness, or rode on its back.

Palæphatus informs us, that chariots were first in use; and that the Lapithæ, who flourished about Hercules's time, were the first that attempted to ride upon horses. Whilst Lucretius asserts that the first heroes were mounted upon horses, and that chariots were a modern invention;

" Et prius est reppeitum in equi conscendere costas,
Et moderarier hunc frænis dextra que vigere
Quam bijugo curru belli tentare pericla."

Homer, in his Iliad, describes all his heroes as fighting in chariots, which were drawn by two, and sometimes four horses. Hector's chariot appears to be drawn by four horses:

" Ξανθε τε, κ᾽ συ Ποδαργε, κ᾽ Αιθων, Αάμπε τε δῖε."

* Potter's Æschylus. † Bryant's Mythology.

It is but reasonable to conclude, with Lucretius, that the unskilled act of mounting must have been antecedent to the use of the chariot and its complicated harness; and in those early ages it is probable that they understood not the method of governing horses with reins and bits, but managed them only with a rope or switch, and the accents of their voice. "This we find," says Archbishop Potter, "to have been the practice of several nations, as the Numidians, Getulians, Libyans, and Massylians, of whom Lucan speaks thus:—

> " 'Et gens quæ nudo residens Massylia dorso
> Ora levi flectet frœnorum nescia virgâ.' "

All the ancient authorities describe the primitive inhabitants as a rude and unpolished kind of beings. Kings and princes appear to have had little else to do than to attend to their flocks and herds, which constituted, at that time, their principal property. Thus Achilles, in Homer, tells Agamemnon, that it was only to oblige him he had engaged himself in the war against the Trojans, from whom he had never received any just cause of quarrel;

> "Since they, by impious theft, have ne'er detain'd
> My oxen, horses, or, on Phthia's land
> Destroy'd my fruits."

And in the different migrations which mankind undertook in search of new settlements, into whatever distant climes they extended their course, whether to the severe northern regions or to the parched soils of "Afric, or of either Ind," they undoubtedly took with them a few of those useful quadrupeds, such as the horse, ass*, dog, sheep, camel, &c. &c., which even now accompany mankind in their various wanderings, and are found capable of supporting the different varieties of climate and situation; who, after increasing and extending over the surface of the globe, have sustained a variety of alterations, in their bodily formations, by the existing influence of climate and manner of living. Contrast, for instance, the animated countenance of the beautifully-proportioned and spirited Arabian with the sluggish, inanimated features, of the old-fashioned English cart-horse. Compare the swift and stately Barb with the shaggy-haired indigenous breed of shelties and galloways; or the huge London dray-horse with the small and diminutive animal of Tibet and Ceylon. This last comparison is, perhaps, the most remarkable

* Herodotus remarks, that horses were able to bear the extremest cold in Scythia, which the asses could not. This assertion is confirmed by Pliny, who says, "Ipsum animal asinus frigoris maxime impatiens: ideo non generatur in Ponto, nec æquinoctis verno, et cætera pecua admittitur sed solstitio."

instance of variety in the same species that occurs throughout the whole terrestrial creation; and if to these varieties of form and proportion we add the innumerable variations in colour and shades with which nature has been pleased to diversify the horse species, we are almost inclined to doubt the possibility of their their having all descended from the same parent stem. But, on enquiry, we shall discover, although the extremes, when contrasted, appear exceedingly dissimilar, that they are connected, by many intervening degrees, gradually together: to account for these diversities, we must consider the agency of the various causes to which they have been exposed.

The varieties observed in the horse species may be reduced to three heads:—first, the colour; secondly, the figure and stature; and thirdly, the disposition.

ON THE COLOUR OF THE HORSE SPECIES.

The different tints and shades with which Nature has been pleased to diversify mankind have generally been regarded as the most peculiar qualities of the various races by which their breed is determined. But the colour of horses does not depend on their skin, as in the human subject, but upon the vesture which nature has benevolently granted them, called hair. Their breed is not in the least determined by their colour, nor does their colour appear to be much influenced by climate, as among other animals, whose coverings seem to be modified, in many instances, by the temperature of the zone which they inhabit. To the operation of climate we attribute the prevalence of light colours in the animals of the polar regions, and the dark hues observed in those living under the torrid zone. This is very apparent in man, the *chef d'œuvre* of the terrestial creation; in the arctic fox, the polar bear, and various other animals. But climate does not appear to have had this influence on horses: they appear endowed with an inherent property capable of retaining their various hues under every variety of temperature; as in every country where horses are met with their colours are diversified; and if any exception is made, we consider that horses in the northern countries are darker in colour than those from the east. The heavy cart-horse, for instance, that is a native of a colder country than the thorough-bred, is generally black; whilst it is a rare instance to meet with a thorough-bred perfectly black. "Horses," says Mr. Percivall, in his Elementary Lectures on the Veterinary Art, "that are natives of hot countries are in general light coloured, and have all sleek and fine coats."

But although the colour of horses does not appear to be altered

by climate, yet we perceive a great difference between the texture of the coverings of those who inhabit different zones. There is a considerable difference between the thickness of the skin of the cart-horse and that of the racer, and likewise between the texture of the hair of the two breeds.

Mr. Percivall* appears to consider that there is some connection between the cutis and the hair, as it respects its colour; "for the skin," he says, "as well as the coat of a black horse, is coarser and thicker than that of a horse of the same breed of another colour; and it is rather uncommon to see a black racer, whereas the colour is predominant among our large heavy cart-horses." Nature has kindly endowed animals that inhabit cold climates with a dense skin, as well as a thicker covering, to protect them from the severities of the climate. In northern countries the sheep are covered with thick fleecy coats, whilst in warmer climes the wool degenerates into coarse hair.

The dogs of Baffin's Bay are protected from the severities of the weather by dense woolly jackets, and their skins are considerably thicker than those in the East Indies, who have scarcely any hair. The Arab horse is covered with a soft, sleek, and glossy coat, whilst the shelty of Scotland is enveloped with long shaggy hair. Most animals that are exposed to the severities of the weather have their coats longer, and even of a lighter colour, in the winter than in the summer: this effect of temperature is very considerable in wild animals. The Siberian roe, and the squirrel of Danish Lapland, that are red in summer, become gray in winter. "Wolves, and the deer kind, particularly the elk and the rein-deer, become light in the winter: the sable *(m. zebellina)* and the martin *(m. martes)* are browner in summer than in winter†." The same is remarked in horses who run at grass throughout the year: their winter coats are of a lighter hue than the short glossy covering which follows in the spring. This is very observable in those miserable starved horses that inhabit Dartmoor, in Devonshire, and Gossmoor, in Cornwall, in the winter months:

> "They change their hue, with haggard eyes they stare;
> Lean in their looks, and shagged in their hair."

But this slight difference in colour appears, in some measure, to depend not so much on any actual change which the hair itself undergoes, but only as far as the cold weather affects the secretion of that oily matter which anoints the stem of the hair, and gives the coats of those horses who inhabit warm climates that glossy and brighter hue.

* See Percivall's Lectures, vol. ii, p. 197.

† Lawrence, quoted from Novæ Species, Quadupedum, p. 7.

The differences in the colour of horses have been very confidently ascribed to *domestication*. Animals living in a state of nature have not sustained any variation in their colour; but when domesticated, they have undergone such a variety of alterations as to render it impossible to trace back the stock from which they originated. Alterations of colour daily occur among all domestic animals: the rabbit, cat, pig, and dog, are striking instances. The greatest mutation in the colour of horses are the tiger, the leopard, the piebald, and the strawberry colours. Leopard and tiger-coloured horses are common among the Monguls, in Asiatic Russia. The piebalds are very plentiful in China. Similar varieties have been observed among mankind: individuals are sometimes spotted with different colours; blacks are sometimes marked with patches of white, whose parents were perfectly black.

The milk-white and cream-coloured horses are very analogous to the human Albinos in the whiteness of their skins and other integuments. White haired horses, like white haired persons, are irritable and weak, yet they were highly esteemed by the ancients, who believed that they excelled all others in swiftness.

"Qui candore nives anteirunt cursibus amas."

Pure white or leucætheapic horses are very rare animals; the common white horses are those that are changed to white from grey by age. An enquiry might reasonably be made, how we are able to account for so many different colours proceeding from one common stock. Domestication has been assigned as the principal cause; for we know that the domestic state is continually producing deviations from the ordinary course of nature; yet we cannot tell how or in what manner these varieties are produced.

The various colours must be considered as accidental varieties, and the union of the same colours makes these varieties hereditary; for it is a well-known fact, that if animals marked by certain native peculiarities generate, and their offspring are again and again matched with similar kinds, that any variety might be fixed as a permanent breed. The union of the different breeds has a great effect in altering the colour, conformation, and other properties of the offspring, and is thereby used with considerable benefit in meliorating the different breeds of domestic animals.

Various causes may be assigned for these accidental varieties; they are sometimes produced by mental impressions on the part of the mother*. The Earl of Morton bred from a male quagga and a young chesnut mare; the result was a female

* Vide Philosophical Transactions.

hybred, which, both in her form and *colour*, bore marks of the mixed breeds. The chesnut mare was subsequently parted with to Sir Gore Ousely, who twice bred from her by a black Arabian, and the progeny, strange to relate, exhibited in their COLOUR a striking resemblance to the quagga, of a bay colour, and distinguished by the dark stripes across the forehand, the dark bars across the back of the fore legs, and the short, stiff, and upright mane. A similar circumstance* is related of a sow belonging to D. Giles Esq., which was bred from by a boar of the wild breed, of a dark chesnut colour: the progeny shewed a striking resemblance to the boar in colour. The sow was afterwards bred from by two of Mr. Western's boars, and in both instances chesnut marks were prevalent in the litter.

We have also a remarkable instance in the sacred writings of the effect of the imagination in conception: it tends to shew what influence the mind has in producing the external characters of coloured covering, by Jacob laying speckled, and spotted, and ring-streaked rods of poplar in the watering troughs, about the time when the stronger cattle coupled and conceived: these striking their imagination as they drank, made them conceive a spotted offspring. The effects of the imagination is oftentimes observed in pregnant women, by certain marks being produced on the child, which are supposed to derive their origin from the longings of the mother.

We insert the two last examples without much comment: for the former one we have the authority of the inspired writer Moses; the truth of the latter is vouched for by almost every old woman in England; and neither of them are a whit more improbable than the two communications of the Earl of Morton, in the "Philosophical Transactions," whose authority is indisputable. For further information, we must wait until the internal properties of matter, which composes the animal body, are further developed—

"Qui potiut rerum cognoscere causas;"

for if we were to transmit our imagination to a fancied period, when horses existed but of one kind,

"Incipiant silvæ cum primùm surgere, cum que
Rara per ignotos errent animalia montes,"

we could not then better explain how the various colours which now diversify the horses of the whole earth have originated from one common stock.

"Why does one climate and one soil endue
The blushing poppy with a crimson hue,
Yet leave the lily pale, and tinge the violet blue?"

* Philosophical Transactions.

Man, while he measures the orbit of the celestial world, cannot penetrate the veil which wraps the structure of the animal frame. Shrouded in impenetrable secrecy, phenomena behold hypothesis after hypothesis make its gaudy and transient appearance, and then disappear for ever.

"The mysteries of Heaven
Deride philosophy. Man strives in vain,
Through the most happy of his walking dreams,
To unlock the secrets of your vast domain:
To Him alone your mysteries stand confest."

[To be continued.]

PATHOLOGICAL FACTS AND OBSERVATIONS.

By Mr. J. CASTLEY, *V. S.* 12*th Lancers.*

No. II.

"What I have seen permit me to relate."

OF ACUTE INFLAMMATION OR FEVER IN THE FEET, COMMONLY CALLED ACUTE FOUNDER.

ALTHOUGH a disease may be of rather frequent occurrence, and pretty generally understood, it may nevertheless be often very useful to notice under what particular circumstances we have seen it prevail to any great or extraordinary extent; as such facts and observations will always have a tendency to throw some additional light upon its true nature and character, and will afford us the surest grounds upon which to build a rational theory as to predisposing and exciting causes.

One man may have a better opportunity of observation than another, but it will be thrown away upon him unless he communicate the result of his experience to the world. Pathological information should be common to all; and a periodical publication offers an excellent medium for this purpose. Every liberal-minded person must agree that such a thing was very much wanted amongst us. We may all expect to reap some benefit from it, as well as our worthy and spirited friends the Editors. I, for one, wish success to the undertaking; and shall always be willing to contribute my *mite* to the stock of general information.

Before we proceed further, I would object to the term *founder*, as altogether too vague and indefinite; confounding inflammation of the laminæ with other diseased states of the foot; and not in accordance with the present stage of our knowledge.

In a former paper I remarked, that "fever in the feet" sometime occurs as a consequence supervening upon tedious and protracted cases of pneumonia. More commonly, however, we see it take place after a horse has been made to undergo some great or violent exertion,—for instance, after a severe fox chase, or a hard ride upon the road. But I do not remember that anything has yet been said as to its extreme liability to occur after a sea voyage. At all events, it seems to be a fact not generally known, that horses are most particularly prone to this complaint after having been confined for any considerable time together on board of ship. I have had several opportunities of observing this circumstance, but certainly never upon so large a scale as during our expedition to Corunna (Sir John Moore's campaign in Gallicia, in 1808-9). On that occasion, indeed, it prevailed to a very remarkable extent amongst the horses of the hussar brigade.

This beautiful brigade of cavalry, consisting of the 7th, 10th, and 15th regiments, landed at Corunna about the 20th of November. They had been on board upwards of three weeks, having been detained a part of that time by contrary winds at Portsmouth. As the transports could not get up close to the landing-place in the harbour of Corunna, the horses were necessarily disembarked by swimming them on shore from the ships. They were first lowered down into the sea, and then towed to land at the tail of a boat. After landing, they were put up in a very crowded state; and I may also add, they experienced a very great change with regard to forage,—from oats and hay, to rye and barley; but chiefly rye and rye straw to eat.

After disembarking, the troops were allowed only a very few days to get ready; and on account of the scanty accommodation to be expected in passing through the province of Gallacia, they commenced marching by squadrons, in daily succession. Each regiment consisted of three squadrons, so that the last to move from Corunna had from seven to nine days longer rest after the voyage than that which went first; a circumstance well worthy of our attention, as we shall see in the sequel. On that occasion, I was directed to follow a day's march in rear of the whole brigade; to pick up all the horses belonging to it that might be left on the road; and to get them on to Lugo and Villa-Franca. The latter place is seven marches from Corunna; is situated at the foot of the Gallician passes; and was indicated as the principal depôt for sick horses.

At Betanzos, the first stage, I was not a little surprised to find more than twenty horses left behind; all with "fever in the feet;" and the greater part of them belonging to the regiment that was

the first to march from Corunna. And this continued to be the case, more or less, all along the road.

Every one who has seen horses afflicted with this complaint may form some idea of the task I had in hand. When in this state, they are found almost continually lying down; and if forced to stand upon their feet they seem to suffer such acute pain as to be truly objects of pity. One would not think of moving them under such circumstances, if that could be helped; nevertheless, by giving them plenty of time, putting little or nothing upon their backs, and driving them before us, we succeeded in getting most of them forward; and strange to say, many of them, even of those that were severely affected, appeared to get better every day during the march. Some few acute cases, indeed, and especially where the hind feet were attacked as well as the fore ones, we were obliged to leave behind. But we managed to assemble at Lugo and Villa-Franca about 400 horses belonging to the brigade. Of these, at least one half had been left behind for this one complaint; and the greater part of these, again, were of the 7th Hussars, which regiment was the first to march from Corunna, and consequently had the least time allowed for rest after the voyage. The 10th followed the 7th, and left behind a much fewer number of those cases; whilst the 15th, being the last regiment on march, had very few indeed, in comparison with the other two.

Now, the plain and obvious inference to be drawn from these facts is, that the circumstance of standing for any considerable length of time together on board of ship, seems highly to predispose the laminated structure of the feet of horses to take on an inflammatory action. Nor is this to be wondered at when we come to consider the motion of a ship, and the almost unceasing efforts the animal is obliged to make in order to preserve his balance. Continually moving his body backwards and forwards, and alternately throwing the greater part of his weight upon his fore or hind extremities.

In the present instance, the disposition to this complaint might be increased, perhaps, by other circumstances; as the animals being plunged into the sea from the ships, the crowded state in which they were put up after landing, and the change of food. Upon the first of these points, however, I am not much inclined to lay any stress, because it may be observed, the disease did not actually make its appearance until the troops began to move. Neither am I inclined to attribute much to the change of food, although I may here remark, that rye is, without doubt, the very worst grain that can be given to horses; and whilst we remained at Corunna we saw it frequently produce violent diarrhœa,

which, in several instances, was rapidly followed by inflammation of the bowels, and death even in a few hours*.

The crowded state of the brigade after landing, and the insufficient time allowed for rest after the voyage, especially to some of the squadrons that went first, are, I think, to be considered as additional predisposing causes, and probably had a great share in producing the malady in question. And this I take to be sufficiently proved by the fact of the 7th having suffered so much more severely than the 15th on this occasion. Eight or nine days make a good deal of difference; and besides the greater length of time, there is also to be taken into consideration, that as each squadron moved off, more room was made for the remainder, who were thus enabled to lie down and take their rest in the recumbent posture, a matter, I think, of much importance, and should always be attended to when horses are brought from on board of ship. This, together with the avoidance of exertion, at least for some time, are, I am persuaded, the best preventives against the occurrence of this troublesome complaint; and of this I am so well satisfied, that in a code of instructions which, on a more recent occasion, I have been desired to draw up, relative to the treatment of horses during a voyage, I have said, "When horses are disembarked, they ought to have as much rest as it may be possible to give them. The practice of getting upon their backs and riding them away from the ships' side, should also be avoided; not only as at that time they are more or less cramped, and in a state very unfit for exertion, but because such forced exertion is a likely means of bringing on inflammation or fever in the feet, a disease to which horses are most particularly subject after a sea voyage."

During the remainder of the Peninsular campaign, the cavalry regiments were, for the most part, landed at Lisbon, where they were always allowed a fortnight or three weeks' rest before they commenced their march; by which practice, any severe casualty of this sort was, in a great measure, avoided. And yet, I believe, every regiment had several cases of inflammation of the feet when they first began to move.

During these campaigns, we had often also to deal with this complaint as appearing under other circumstances. We found it was very liable to occur after long and wearisome marches, although these marches were always performed at a foot's pace; and in this way it would attack subjects who had been a long

* In some instances the progress of inflammation was so rapid as to have all the character of a virulent poison. Oil administered internally, and extensive counter-irritation over the whole surface of the abdomen, I thought, saved some of these cases.

time in the country, and that we considered perfectly well seasoned and inured to the climate. This happened, I think, more particularly during our marches in the plains of Castile, a hot and rather sandy soil, than perhaps at any other time. The veterinary surgeons employed in the Peninsula may, therefore, be said to have seen as much, if not more, of this disease than any other set of practitioners; at all events, as arising out of the twofold circumstances I have mentioned. In our own country it is not of so frequent occurrence; and we see it most commonly take place after some great or violent exertion. But here we saw it continually appear as a consequence of slow, but long-continued fatigue; and in this view, we can account for its extreme liability to occur after a sea voyage. The mere circumstance of standing, however, is not sufficient to satisfy my mind on this point. Some horses never lie down at all; and I have heard many people say that such horses are more subject to inflammation of the laminæ than others. It is natural enough to suppose that this should be the case; but, for my own part, I have not observed that it actually is so. It may be worthy of remark, that the Portuguese and Spaniards seldom suffer their horses to lie down in the stable. They scarcely allow a four-feet standing for each, and attach them by means of a double collar shank, in such a manner as to preclude the possibility of their lying down. Yet I do not remember to have seen any of them attacked with the disease in question.

In a lecture which I have lately had the advantage of hearing Professor Dick, of Edinburgh, deliver upon this subject, he said, he has frequently seen this complaint arise from overloading or gorging the stomach with food. A horse, perhaps, gets loose, and eats an extraordinary quantity of any kind of grain he happens to meet with: an attack of inflammation of the feet is a likely consequence. And such is the sympathy, he observes, between the stomach, the alimentary canal, and the surface, that if we regard the hoofs as a continuation of the common integuments, this is not to be wondered at. I know not what share the feeding our horses on rye after landing at Corunna might have in producing this disease, but certain it is, that never either before that period or since have I seen it prevail to anything like the same extent; and I believe I may say, no other person living.

From whatever cause, however, it may arise (and sometimes we find it take place without our being able to assign any very good reason for it at all), or under whatever circumstances it may occur, the treatment will be essentially the same. And here, as in pneumonia, we should at once have recourse to the most prompt and vigorous measures. We must endeavour, by all the

means in our power, to cut short the inflammation; else such a change of structure will very soon begin to take place as must for ever defy the art of man to remedy. We should keep in mind, that the battle is only to be fought, with any chance of success, at the beginning, and during the first stage of the disorder. And here again, as in inflammation of the lungs, bleeding is our sheet-anchor. But if there be one disease more than another in which it can be shown that the local abstraction of blood has a decided advantage over general depletion, I will venture to say it is this. My own experience tells me, that the nearer we bleed to the part inflamed the better. Blood, therefore, taken from the foot will relieve with the greatest certainty. And here I must apply an excellent observation made by my friend, Mr. James Turner, in his very ingenious and well written paper relative to the treatment of the navicular disease. "It is indispensable," says he, "that the bleeding should be continued until the quantity abstracted locally should affect the system generally." Now, if this be necessary in the treatment of occult contraction, how much more must it be in acute inflammation of the laminæ?

But during the Peninsular campaigns we had frequently to treat this complaint in situations of peculiar difficulty; for instance, whilst marching—when we had no opportunity of leaving anything behind. Under these circumstances, I found that, although I could relieve, in the first instance, by bleeding at the toe, yet in the warm climate of Portugal, I was liable to lose my patient afterwards, in consequence of the wound I had made in the foot. Suppuration was apt to take place in the sole; secondary inflammation would be set up; and this would be followed by tumefaction, burrowing up and bursting all round the coronet; and then the game was lost. I therefore abandoned the foot altogether, and began to bleed higher up, from the trunk of the vessels coming from the leg and foot. And the result of this practice I found so generally satisfactory, that I have been induced to continue it ever since. We are told, and by a great authority too, that bleeding at the shoulder is uncertain, and that "the vein itself in general gives out but little blood." For my own part, however, I must say, that I have never found any difficulty in taking as much blood as I wished; or of producing the effect I desired in this way. It is to be observed, that whenever there is acute inflammation in the feet, the vessels of the leg and arm are always full; and they may be rendered still more so by placing the animal in a warm bath. But this measure must be put in execution vigorously. The bleeding should be pushed, if possible, to approaching syncope. I have in a great number of instances, seen the most marked and

decided beneficial effects result from this practice. I remember whilst we were in France, Captain White, at that time belonging to the regiment, now, I believe, living at Maidstone, in Kent, had a valuable horse severely attacked with inflammation in the fore feet. We had his shoes taken off, and his hoofs pared down; then, placing him in a large tub of warm water, I proceeded to open both the cephalic veins at the same time. They bled not only freely, but rapidly; and after the loss of seven or eight, or perhaps more, quarts of blood (for the effect is more to be attended to than the quantity) the horse began to break out in a sweat, to breathe hard, and to stagger. We were glad to get him out of the bath, and to stop the bleeding as soon as possible. The Captain, who was looking on, seemed much alarmed, and thought we had killed his horse. Next morning, however, we found the animal standing firm upon his feet, apparently free from pain; and he got rapidly well again. This I call cutting short inflammation; and whenever we get rid of it in this manner, it leaves no bad consequences behind. But, perhaps, you will ask, "Would not the same quantity of blood taken from the neck, have produced the same effect?" To this I can only say, that my own experience, as far as that goes, tells me, "No."

I have also frequently practised bleeding from the trunks at the coronet or pastern veins. And here, again, we have a powerful means of relieving inflammation in the feet. The only objection I know of to this part is, that if the horse has to travel, secondary bleeding is apt to take place, even eight or ten days after the operation, which, under such circumstances, may sometimes be a little troublesome.

We see, then, that we can make our selection. Abstraction of blood from any of these parts is likely to have a good local effect; and if we fail in giving relief by one of these means, we may have recourse to them all, alternately, in daily succession. But with regard to bleeding, I would say, once for all, that we must make an active use of it whilst it is yet time, for that time will soon pass away.

The next remedy in importance to bleeding, in my opinion, is the warm bath. The patient should be made to stand for several hours together, or as long at a time as he can bear it, in a large tub of warm water, which is to be kept up nearly at the temperature of blood heat. When tired he may be allowed to lie down awhile, and then put in again. This should be continued all day; and at night much good may be done by putting large bran poultices over the feet: some opening or laxative medicine should be given, and a slop diet enjoined. But my chief reliance is upon the active employment of the lancet, and *the diligent* use of the

warm bath. With these I have been generally successful in subduing the most severe attacks of this sort in a very few days. But if the symptoms do not appear to moderate within a week, the prognosis will be bad. In a very short time we may expect that a change of structure will begin to take place; and after the vessels have got into a state of collapse, bleeding will no longer be of any use. Counter-irritation, as blisters, &c. may then be employed over the coronet with some advantage.

Every body knows what is likely to happen when we have failed in our endeavours to cut short this disease. In such cases, the structural change commonly goes on to the total disorganization of the contents of the foot. There will be, first, elongation, then disunion of the laminæ, and consequent descent of the coffin bone from its relative position in the hoof; bilging or bearing down the sole, till it sinks below the level of the ground-surface of the crust; and then the animal is a cripple for life. To this state of the foot I have no objection that the term Founder should be applied. Here, indeed, I think it very expressive of the lost and sinking state of the animal machine. But we also know, that all this alteration of structure may take place from other causes besides acute inflammation of the laminæ; and I therefore repeat, that, according to its common acceptation, the term founder is vague, loose, and indefinite; calculated to mislead, and unworthy of the nineteenth century. The explanation given in Johnson's Dictionary of this term is, "to cause such a soreness and tenderness in a horse's foot, that he is unable to set it to the ground." And the non-veterinary world have always found it a convenient word to designate lameness of any kind: we, however, should discriminate.

It is evidently in this general sense that Colonel Napier has made use of it in his excellent and elegantly written History of the Peninsular War, now publishing. Whilst narrating the events which took place at the end of the retreat to Corunna, and in speaking of the cavalry, he says, "The horses still left alive were generally foundered;" by which he only means to convey, that they were generally lame, and in a bad state. It is true that our horses were in a very crippled condition on arriving at Corunna. Their feet were, indeed, sadly broken; but this was principally owing to the want of shoeing: and we had been obliged to destroy a number on the road, from the same cause, being unable to get them on any further. It is also equally true, that they were generally in a very weak and emaciated state, in consequence of the vast fatigue they had undergone, and the extreme scarcity of forage we had experienced. But the disease of which I have been speaking, which prevailed so extensively at

the commencement of the campaign, and which has been usually called *founder* in books of farriery, had entirely disappeared. I do not remember any instance of it during the retreat.

At some future time I may, perhaps, revert to this interesting period, as connected with the important subject of shoeing; at present I have done—" a tale should never be too long."

ON THE WILLINGNESS OF HORSES FOR WORK.

By Mr. KERR, *V. S. Southampton; late H. E. I. C. Service.*

GENTLEMEN,—I beg to offer, through the medium of your valuable journal, a few hints on a subject which I humbly conceive to be of great importance in the purchasing of horses, and the non-observance of which frequently produces considerable astonishment, mortification, and loss—the willingness of horses for labour.

Sportsmen, agriculturists, and every individual who has occasion for the use of the horse, either for pleasure or business, must, I doubt not, have met with innumerable disappointments in their purchases. A gentleman is in want of a hunter; he applies to a dealer; many horses are shown to him, and he makes choice of one sixteen hands high, three parts bred, light head and neck, an oblique and deep shoulder, an excellent middle piece, fine length of quarter, and capital fore-legs; in fact, with every apparent external qualification for speed, strength, and the purpose for which he is required: he is examined, and found sound; he willingly pays seventy or eighty guineas for him, and exclaims, " At last I have a perfect horse." He hunts him; but what is his mortification to find, after the first burst is over, that the animal has no " courage;" he seems no longer to experience delight in *going*. To increase his mortification, he is passed, in spite of him, by a horse not half his weight, with a heavier burden on his back. This " cat of a thing" has his head and tail erect, his eyes darting fire, his nostrils distended, and the rider heated to a fever in pulling and sawing at the lacerated mouth of this noble and generous creature *going* to his very utmost, if permitted; and *go* he would until he fell. I do not suppose that the animal distresses himself for the rider's gratification; the cause is of that nature that the animal himself cannot controul: it exists in proportion *to the excitability of that part of the brain and nervous system which influences the muscles of locomotion.*

I am fully aware that this picture does not exist so frequently in the hunter as in the single harnessed horse or hack; and for this reason—if there are two inducements greater than others to

spur a sluggish horse to increase his pace, it is company, and returning to his manger: it is the former of these excitants that might induce an animal of this description to exert himself to a degree in the field which could not be exacted from him on the road when travelling alone. The fact, however, is seen in a much more remarkable degree in the roadster, or chaise horse; and in order to exemplify this, I cannot do better than relate the two following cases:—

I was consulted some time ago by a Mr. C. of this town, respecting a bay horse, which he had lately purchased of —— Esq. of the New Forest. "He could not conceive," he said, "the reason, but his horse was almost useless to him, for he could not get more than six miles an hour out of him in single harness." Mild and harsh treatment were had recourse to. He was most liberally supplied with corn, which he speedily devoured, for his appetite never failed him; and sometimes he did not move out of his box for three or four days together; but all in vain: so that the owner began to suspect that there must be something the matter with him. I examined the brute: the subject was a short-legged, well-formed bay gelding, not quite three parts bred, eight years old, fifteen hands high, and sound in bodily health, with a thick pendulous lip, and a small sleepy eye. He had something the matter with him, but the defect was not in his muscular strength, *but in his brain and nervous system.* I now beg to contrast this with a case the very reverse. Miss B. of this town, has a little brown pony, twelve hands high, and twelve years old, and remarkably delicately formed. I have known him nearly two years, during which time he has repeatedly bolted, and would have continued his pranks up to this time, had not a proper bit been employed. This so alarmed the fair proprietress, that in order to subdue his courage, *his propensity for going*, the little animal was worked every day to a very considerable degree, and its corn reduced to the daily allowance of one feed. Still its desire for *going* was the same. By this kind of discipline it may be readily anticipated that the pony rapidly lost flesh, and began to look miserable. I was asked my opinion: I told her he was over-worked, and had not sufficient corn. "How can that be?" exclaimed Miss B. "he pulls just as hard!" I begged of her to bear in mind that it was not the actual bodily strength of her pet that enabled it to perform such feats, but that it depended on its natural irritability of constitution.

To conclude, so important is this point in horses, that I would much rather have a plain horse with this *willingness for labour*, than a beautifully formed horse without it. But it may be asked

by those not much accustomed to the animal, how are we to learn whether this grand qualification is in the possession of the one we would wish to purchase? It is to be acquired to a very considerable degree by observation on the habits, countenance, and general appearance of the animal; but the best preventive against disappointments on the present subject is that of obtaining, before purchase, permission to drive or ride the horse twenty miles at least *without company*, towards the conclusion of which his "*willingness for work*" will be demonstrated.

ON THE TEETH OF CATTLE, AS INDICATING THE AGE.

By Mr. W. Youatt.

No agricultural writer, so far as I am aware, having condescended to give us a detailed account of the changes which the teeth of cattle undergo, and the periods when these changes take place, and not one of our cattle doctors having presumed to touch on the subject, I am induced to believe that a history of these changes may be interesting both to the agriculturist and the veterinary practitioner.

The mouth of the new-born calf presents an uncertain appearance, depending on the mother having exceeded or fallen short of the average period of utero-gestation. Sometimes there will be no vestige of teeth; at other times the two central incisors will be protruding through the gums, or they will have risen and attained considerable bulk.

About the middle or the close of the second week, the two next teeth will be added.

At the expiration of the third week, the calf will have six temporary incisor or front teeth: and at a month old, the whole eight will have appeared.

These teeth will present a surface convex externally, and somewhat concave within; the portion above the gum will be covered with enamel, and which will slant upward from the internal to the external surface of the tooth, forming an edge of considerable sharpness. The only indication of advancing age will be the wearing down of these sharp edges, and the appearance of the bony substance of the tooth beneath. Even at a month the centre teeth are a little worn. At two months the enamel will have been somewhat worn off the edge of the four centre teeth. At three months, from the six centre; and at four months, the corner teeth will likewise be considerably worn.

A new change now takes place: not only is the enamel gradually more and more worn off, but the two centre teeth will be evidently smaller than the others; the face will likewise be changed, the inner as well as the outer edge, and more than the outer, will seem to be worn down, and the mark will change from the appearance of a broad line to a triangular shape; and at eight months, or before that time, the centre teeth will not be above half the size of the next pair; and these likewise will be evidently diminishing.

At eleven months the four centre teeth will be diminished in the same way, and vacuities will be seen between them.

At fifteen months, the six centre will be thus shrunk; and at eighteen months the eight incisors will present a curious and diminutive appearance. The process of diminution having been longer established in the centre ones, they will be the smallest of the set; but even the corner ones will scarcely retain half their original size, and the vacuities between them will almost equal the width of the teeth. The faces of the teeth will be lengthened with the triangular mark diminishing, but another more or less deeply shaded, and principally in the central ones, coming around the original mark.

The process of diminution is now retarded in the other teeth and accelerated in the middle ones until the expiration of the second year, when they are pushed out and give way to the two central permanent incisor teeth: therefore a two-year old steer or heifer has the two central permanent incisors coming up, and the other six milk teeth remaining.

At three years old the beast will have four permanent incisors, and four milk teeth; but these latter will now be very small, and will often scarcely exceed the size of a crow-quill, with a slight expansion of the head.

At four years old there will be six permanent incisors, and two shrunk and useless milk teeth, and very frequently pushed back by and concealed behind the third incisors. These six teeth tolerably developed, and the two shadows of remaining milk teeth being thrust behind, probably misled Mr. Parkinson, a very respectable agricultural writer, but a wretched practitioner, to say that at four years old cattle were full-mouthed. That is not the case until the expiration of the fifth year, when the eight permanent incisors are up: even then the corner teeth are small, and they do not attain their perfect size, and the beast is not properly full-mouthed, until the end of the sixth year.

In the fourth and fifth years cattle are sometimes strangely annoyed by the diminutive milk teeth, which occupy the same socket with the others and press upon the gums, and cause considerable inflammation. They are now not very firmly fixed, and

may be easily extracted. They are the wolves' teeth of the horse, which are the milk grinders, pushed out of their places, and although not expelled by the new molars, reduced by their pressure to a very little size, and yet sometimes exceedingly troublesome.

A beast of six years has all the incisor teeth fully grown. The edges of these teeth have, however, been gradually wearing down. Even at three years the edge of the central incisors is taken off. At four years, a dark waving line, shewing the bone beneath, begins to appear. At five, this is seen in the four central ones; and at six it has extended over the whole set. At seven it is becoming broader and more irregular in them all, with a second, and broader and more circular mark appearing within the former one, and which, at eight, has extended over the six middle teeth.

At nine, the process of diminution which was observed in the milk teeth is beginning to appear in the permanent ones, and the two central teeth are evidently smaller than their neighbours; and the two dark marks in all except the corner teeth are rubbed into one, of a triangular shape. At ten, the four central incisors are diminished, and the mark is becoming smaller and fainter. At eleven, it is so with the six central ones; and at twelve, all are much diminished; but not to the extent to which the diminution of the milk teeth was carried, and therefore these teeth are much closer together than the milk teeth of the eighteen-month steer were. The mark is now very faint, or nearly obliterated, except in the corner teeth, and the inner edge is worn down to the gum.

It is seldom that the animal is suffered to live beyond this period, because he is materially decreasing in value; but some favourite bulls have been retained until they were more than twenty years old. Cattle usually begin to lose condition, and sometimes rapidly, at twelve, and the reason is evident—the teeth are not only blunt and flat, but small and far apart, and the animal has much difficulty in cropping sufficient nutriment.

The author of the "Illustrations of Natural History," who is always interesting and generally correct, gives a very strange account of the process of dentition in cattle, page 60. "The age of the ox is known by the teeth and horns. The animal is furnished with eight cutting teeth in the lower jaw; at the age of ten months the two middlemost of these fall out, and are replaced by others that are not so white but broader. At the age of sixteen months the two next milk-white teeth fall out likewise, and others come up in their room: thus, at the end of every six months, the creature loses and gains 'till he arrives at the age of three years; when all the cutting teeth are renewed, and then

they are long, pretty white, and equal." This is even worse than Mr. Parkinson's four-year-old full mouth, for he acknowledges that "the teeth are not up perfectly until the animal is six years old." The author of the "Illustrations" is, however, in good company, for the amusing but imaginative Buffon has committed the same error, and so has the learned editor of the Encyclopædia Metropolitana*.

I am confirmed, however, in the account which I have given of the changes of the teeth, by the high authority of Culley and Dickson, who state that the two central teeth appear at two years, and that the mouth is full at five. The previous and intermediate steps in the process of dentition have not, however, been related by these authors, or by any others.

The grinders will rarely be examined to ascertain the age of the beast. They are too difficult to get at, and the same dependence cannot be placed upon them. The calf is generally born with two molar teeth, and sometimes with three. The fourth appears about the expiration of the eighth month, and the fifth at the end of the year, about which time the first molar is shed. The second is displaced at the end of the second year, and so with the rest, at intervals of a year; but the sixth molar, which is from the beginning a permanent tooth, does not appear until the sixth year.

STRANGULATION OF THE ILEUM, AND ASCITES.

By Mr. C. PERCIVALL, *6th Dragoons.*

STRANGULATION OF THE ILEUM, ACCOMPANIED WITH EFFUSION.

A BROWN mare, three years old, joined the regiment to which I have the honour to belong in the month of April 1829, and suddenly became, on the 3d of September following, very restless, frequently lying down, rolling, pawing with her fore feet, accompanied with a small quick pulse, hurried respiration, together with great distention of the abdomen. Body costive.

V. S. ℔ xij, decoction of aloes ℥i, enemas every hour; stimulating embrocation to surface of abdomen; bandages to legs.

Towards the afternoon became much more restless, constantly

* I should like to know how the learned commentator on "Cuvier's Animal Kingdom" would calculate the age of the horse, when he tells us (vol. iv, p. 435) that "There are eight incisors in each jaw."

"Aliquando bonus dormitat Homerus."

up and down, frequently breaking out into a cold sweat. V. S. repeated, ℔ x, et enemas.

8 P. M.—Embrocation repeated to abdomen.

Sept. 4th.—Much worse; respiration short and quick; pulse eighty; ears and legs cold; abdomen much more distended. Died 9 A. M., Sept. 4th.

Post-mortem Examination.

Upon opening the cavity of the abdomen a considerable quantity of bloody fluid immediately made its escape. The coats of the intestines, both large and small, as well as the mesentery, putting on unusual vascularity; and the peritoneum displaying numerous purple blotches upon the cæcum and colon. On removing the former intestine a little to one side, I observed close to it, or rather lying underneath it, a dark-coloured substance, which, on examination, proved to be the ileum strangulated or twisted, close upon its termination in the cæcum. It presented the appearance rather of a mass of extravasated blood than intestine; and, on being laid hold of, proved to be quite rotten in its texture. The continuous portion of the gut, to the extent of three or four feet, was greatly discoloured. The whole of the small intestines, as well as the stomach, were distended with air; and their villous coat showed signs of high inflammatory action, as also did that of the colon.

In addition to this, effusion had taken place into the cavity of the abdomen, to the amount, as near as I could compute it, of three and a half or four gallons of fluid.

ASCITES.

The subject of this disease (a mare) suddenly experienced a difficulty of drawing her breath, on the 13th of August 1829, which was attended with a quick threaddy pulse, and with costiveness, without manifesting any other sign whatever of abdominal derangement.

She was bled, had injections administered, and took half an ounce of purging mass, and the same quantity of nitre.

The abstraction of blood was followed by diminished respiratory action; and she became comparatively tranquil, and remained during the whole of the afternoon, to appearance, much relieved.

At eight o'clock next morning the respiration became again disturbed; the pulse was seventy-five, and small. She made frequent but fruitless attempts to stale, every now and then pawing the litter with her off fore foot: extremities cold; surface of the body bedewed with cold sweat, with distention of the abdomen. V. S. repeated.

12 P. M.—Much more restless, hanging her head under the manger: ears and legs icy cold; cold sweats, &c. Died September 14th, at 3 A. M.

Post-mortem Examination.

The parietal portion of the peritoneum inflamed; the liver lighter coloured than usual, with an effusion of a yellow serous fluid amounting to nearly three gallons.

P. S. I have lately had a horse under treatment for an accident he met with when out hunting, which rendered it absolutely necessary, in order to save his life, to take up the vein at the hock: if you think it worthy of notice, I will give it you in my next.

ON NEUROTOMY.

By Mr. W. S. RICKWOOD, *Bedford.*

GENTLEMEN,—The following cases of disease, which I have the pleasure of sending to your excellent publication, may, perhaps, tend (with others of a similar nature) to prove the benefits resulting from neurotomy in very severe stages of contraction of the foot, and ossific disease. It will be seen, by the dates of four, that the relief has by no means been temporary. Each of those subjects would have been totally useless but for the introduction, by Mr. Sewell, of the "unnerving" operation. So far as my experience goes, however, I would never recommend its adoption when there is a rational hope of succeeding by any other treatment. I am, Gentlemen, your obedient servant,

W. S. RICKWOOD, V. S.

In 1818, a grey cart mare, six years old, the property of Mr. Brazier, of Goldington, in this neighbourhood, was examined by me. She was very lame in both fore feet, in consequence of very extensive ossification about the coronets; and was scarcely capable of moving on the hard road. I operated on both legs: she became sound, and worked in Mr. Brazier's team about two years afterwards, when she was sold at Potton Fair for thirty guineas.

In 1818, a grey gelding, belonging to W. Pedley, Esq., of Barford, in this neighbourhood, was very lame in both fore feet, in consequence of much contraction of the hoofs. I operated on both his legs: he became sound; and Mr. Pedley regularly hunted him in the Oakley Hunt for several years afterwards. The horse was sold, after Mr. Pedley's decease a short time since, by auction, and was then sound in his action.

In 1822, a chesnut cart-horse, at Oakley, the property of the Marquis of Tavistock, was very lame on the near foot behind, in consequence of complete ossification of the lateral cartilages, and extensive ossific disease round the coronet. She scarcely ever placed the foot on the ground, but generally moved on three legs. Her sufferings prevented the periodical œstrum; she had not bred for years. About two months after the operation she went to work, and moves sound: she has bred several healthy foals, and works as usual.

In 1823, a bay galloway, the property of Mr. Charles Short, of this town, surgeon, was wounded by a nail in the navicular joint; the wound healed, but the animal remained very lame. I was called in. After the operation he became sound, and has remained so up to this time. He is now the property of Captain Davis, of this place, who works him regularly on the road.

In 1824, I operated on a galloway, the property of Mr. John Palmer, of Goldington, in this neighbourhood. He was very lame on the near leg behind, in consequence of ring-bone: I had previously fired and blistered with no good effect. After the unnerving operation he got up quite sound, and continues so up to this period. He has for some time past been let out as a hack in this town.

In Nov. 1828, a black post mare, the property of Mr. Bass, at the George Inn, in this place, was extremely lame, in consequence of much contraction of both feet: she could not stand up in the stable a sufficient time to take her necessary food. I operated on one nerve of each leg only. When the wounds were healed she was taken to work, and is as useful as any of the other horses; continues standing in the stable as long as most horses that are sound, keeps to her regular work, and does not move lame.

Several similar cases have come under my care in this neighbourhood, in which the operation has been equally successful.

SINGULAR FRACTURE OF THE UPPER PASTERN BONE.

By Mr. Fuller, *Cambridgeshire.*

On the 5th inst. I was summoned to attend a horse, the property of Mr. E. Matthews, that had fallen suddenly lame while hunting. I immediately discovered that the upper pastern bone of the near fore leg was very extensively fractured. The horse being aged, and of a very bad temper, the proprietor ordered him to be destroyed. On examining the leg, after death, I found

the upper pastern bone fractured in every direction, and at least into thirty pieces. The capsular ligaments of both pastern joints were dreadfully lacerated, and the nerve on the inside divided. That which makes the case so singular is, that the horse, at the time of the accident, was cantering at a very steady pace upon the high road.

A CASE OF BRONCHOTOMY.

By Mr. HALES, *of Oswestry.*

ALTHOUGH the operation of bronchotomy in the horse has been, I believe, in several instances successfully performed, yet as cases requiring it are not common, and perhaps it is sometimes neglected in those to which it may be applicable, the detail of a case in which it was quite fortunate in its results may not be unacceptable to THE VETERINARIAN.

Upon the 13th of February last, at noon, I was summoned in great haste to an inn in this town, to see a mare that the messenger said was very bad. Upon my arrival, I found her breathing with great difficulty and a wheezing noise; there was a considerable swelling on each side the throat, extending from immediately below the ear to the situation of the thyroid gland. The history of the occurrence was, that about 20 minutes before she had got her head fast between the head of the stall and the wall (a board being off), and was set free with considerable difficulty. Directly after she was liberated her throat began to swell, and her breathing to be affected, both of which continued rapidly to increase. After staying a few minutes, and finding the respiration rapidly getting worse, I determined upon returning home for instruments to open the trachea; for, should the urgency of breathing go on increasing, there was little doubt that she would soon be suffocated. I was scarcely a quarter of an hour away; but upon my return the mare was absolutely gasping for breath, and foaming at the mouth in agony. The swellings were now as large as a twopenny loaf each, and extending lower down the neck; that on the near side rather the largest. Without further hesitation, I laid bare the trachea (twelve inches behind the lower jaw, so as to be clear of the swellings) nearly in front, but rather to the right side, and slit it up about an inch with a sharp-pointed scalpel; then, with the aid of a pair of dissecting forceps, I made two semilunar incisions of the cartilages of the windpipe, large enough to leave a circular opening three quarters of an inch in diameter: a great gush of air issued through the wound, and the mare seemed much relieved. So intense was her

suffering from the difficulty of respiration, that, although no restraint was used on her, except that a man held her by the forelock with one hand with the other under the chin, yet she did not flinch, or in any way evince the slightest pain from the operation. When the opening in the trachea was completed, it was found that the divided edges of the sterno-thyo-hoideus muscle projected over part of the wound, so as considerably to prevent the free ingress and egress of the air: two small portions were therefore excised, sufficient to leave the aperture into the windpipe quite free. In a few minutes the mare appeared greatly relieved, and breathed through the opening with freedom: a quantity of mucus, and several clots of blood, were discharged from the trachea; the latter probably coming from the larynx. Conceiving, from the sudden manner in which the swellings of the throat arose, and which were still getting larger, that some small vessel or vessels were ruptured, and pouring their contents into the cellular membrane, a person was directed continually to bathe the parts from a bucket of cold salt and water. At the end of an hour, no extension of the swelling having taken place, the man was desired to desist from applying the salt and water for the present. More clots of blood, and some of them large ones, were discharged from the trachea. These clots coming most likely from the larynx and glottis, had, I should think, a great share in producing the very sudden difficulty of breathing that existed in this case. She now respired freely through the opening, and appeared easy; was bled to four quarts; and the salt and water bathing was repeated every two hours.

7 P.M.—She was breathing with difficulty, and a great wheezing noise. Upon examination, it was discovered that, in consequence of swelling about the wound, the lips of the incision had separated considerably, and drawn up the skin of the neck from below the wound, so as to cover one half of the original opening. I slit down the skin about an inch with a common bleeding lancet, which entirely freed the opening in the windpipe, and the mare was instantly relieved. A thin bran mash was now allowed, which she ate greedily.

14*th*.—Swelling of the throat as yesterday; a good deal of tumefaction round the wound, but the aperture quite free, through which she breathed with ease. The whole neck was fomented three times a-day with warm water; she was allowed mashes and a little hay; and ate all that was given to her with avidity. In the evening I put my thumb into the opening of the windpipe, so as to stop it up; immediately the mare became greatly distressed, and could not breathe through the regular passages.

15*th*.—Swelling of the throat rather less: to be rubbed night and

morning with a discutient embrocation: fomentations to be continued to the wound.

17*th*.—Swelling gradually subsiding: a large slough on each side of the wound: breathes freely through the aperture. The wound to be dressed with digestive liniment, and to be fomented; continue discutient embrocation to the swellings.

19*th*.— Swelling going down; sloughs not separated; aperture in trachea quite open. Continue remedies.

I again plugged the trachea with my thumb, and found that the mare could breathe through the larynx, but with difficulty, and a great wheezing noise.

23*d*.—The throat is now nearly of its natural size; sloughs in the wound quite loose, but not come away; lower part of the wound healing, and beginning to cover the lower portion of the opening in the windpipe; breathing partly through the wound and partly through the nose. When I stopped up the trachea to-day it gave no inconvenience, as she breathed freely through the natural passages. The mare being the property of a farmer eight miles from hence, she was now taken home.

March 10*th*.—Brought to the yard for my inspection. Wound healed, except about an inch not cicatrized: she is quite well, and was rode to the town.

In this case, I believe, there can be no doubt as to the propriety, indeed, the absolute necessity, of performing the operation of bronchotomy. I am perfectly convinced, and so was every by-stander, that the mare must have died except immediate relief had been afforded her; and this is fully proved by the distress she showed, and her inability to breathe when the opening in the trachea was stopped up on the next day, for the purpose of ascertaining that fact. No untoward symptom arose from the operation, nor did she suffer any constitutional derangement in consequence. No medicine was administered, as, from the swelling of her throat, I considered any attempt to give ball or drench would be attended with more evil than good, especially as there seemed no pressing occasion for their exhibition.

AN ACCOUNT OF THE GIRAFFE,

WHICH LATELY DIED AT SANDPIT GATE.

By Mr. W. J. Goodwin, *V.S. to the King.*

The attention of British naturalists has of late been particularly directed to the giraffe, from the recent death of one of these animals in the King's menagerie. It was brought to England

in August 1827, and was then about a year and a half old, and it died at Sandpit Gate in October 1829.

It was evident, on its first arrival, that there was considerable disease in several of its joints. The knee, the fetlock, and the hock, were swollen and distorted, and the peculiar gait of the animal was more than usually awkward. Inflammation had plainly attacked the synovial membrane of these joints, the cause of which had doubtless commenced while the poor beast was fettered and bound on a camel's back, being too young to travel. The journey overland was however performed by the Giraffe now in Paris without injury, for it was a twelvemonth older than that which was presented to his Majesty.

This disease of the joints continued to increase in despite of the most careful treatment, and, at length, rendered every movement of the animal exceedingly painful. For several months before it died the limbs became powerless ; and it was requisite to support it in the erect position by a sling, to the use of which it became perfectly reconciled.

The inflammation proceeded to ulceration of the synovial membrane and cartilages, and which extended deeply into the bones of several of the larger joints ; and this interesting animal died worn out with pain, the excruciating nature of which was sufficiently obvious on the post-mortem examination of the joints.

The Giraffe belongs to the class *Mammalia*, and the order *Ruminantia*: it bears some resemblance to many species of this order, but it is distinguished from all of them by several striking peculiarities It resembles the camel in the length of the neck ; in the callous substances found on the breast and knees; in the construction of the feet, which have no false or supplementary hoofs ; and in the height of its stature. This resemblance had been noticed by the Romans, by whom it was called the Camelopardalis, the camel spotted like a pard.

It however resembles still more some of the species of *Deer*, in the apparent rudiments of horns, covered by the integument, hairy, and crowned with a tuft of bristles, which may almost be fancied to be the developement of the horns; in the general shape and character of the head ; and in the large soft eye with elongated pupil. The eye of the poor animal that died at Sandpit was the admiration of every one, and its countenance truly indicated its gentle and inoffensive character. The general form of the body, the obliquity of the back, and the slenderness of the legs, remind us of some of the deer tribe. It has, however, characters not recognized in the camel or the deer. On the forehead is a large tuberculous projection of bone, lengthened

towards the nose, and the nasal bones are singularly prolonged, almost to deformity. The muzzle and lips are those of the horse, rather than the camel or deer: the principal peculiarities of its conformation are the length of its fore legs, the elevation of its withers, and the extent of its neck, which are out of all proportion to the other parts. Some are said to have been no less than twenty feet high, from the crown of the head to the sole. The larger one in the British Museum measures seventeen feet in height: His Majesty's was not more than twelve feet high; but it was young when brought into this country, its growth was stinted by constant disease, and the distortion of its limbs materially lessened its apparent stature.

The natural motion of the Giraffe is a kind of amble, with the neck extended, and the animal, as may be imagined from his form, is far from being swift. Progression depends chiefly on the hinder quarters, which are singularly short and deficient in this animal. The nostril narrow, compared with the bulk of the animal, and the lengthened windpipe are incompatible with speed.

The natural food of the animal is pointed out by his form. Although the neck is of great length, the height of the fore-quarters prevents the possibility of his reaching the ground with his muzzle, and therefore he browses on the leaves and succulent branches of trees. The Sandpit Giraffe was chiefly fed on barley, hay, and the shoots and branches of the acacia tree, and other species of the mimosa. It preferred almost every species of green food to that which was dry, and ate it with avidity. Its little appetite for water seemed to fit it for the arid country whence it came. It consumed about two quarts only daily. At times, it would not drink for a day or two, and afterwards would eagerly swallow a larger quantity.

The thoracic and abdominal viscera were carefully examined, and closely resembled those of the deer. The liver was rather small, divided into two principal lobes, and without a gall-bladder, but the biliary duct was very large. A description of the tongue and the stomachs, with accurate drawings, will be published by Sir Everard Home.

The length of the intestines was 156 feet, seventy of which were occupied by the colon, cæcum, and rectum: the two former had none of the longitudinal bands, puckering them into numerous cells, as in the horse, nor were they so capacious as in that animal; but the colon diminishing in size, and formed several circular convolutions on the left side of the abdomen.

The skin has been admirably preserved and stuffed by Mr. Gould, of the Zoological Society. The skeleton also is in a state of forwardness, and will be the only perfect one in this country.

When completed, I shall probably resume my description of this rare animal.

At present I conclude with an amusing extract from Griffith's "Animal Kingdom," vol. iv, p. 151.

"Pliny, Ælian, and Strabo, have noticed the animal, but the first satisfactory description is to be found in the Æthiopica of Heliodorus, Bishop of Tricca. 'The ambassadors,' he says, 'of Axeomita (Abyssinia) brought presents to Hydaspes, and among other things, there was an animal, of a strange and wonderful species, about the size of a camel, which had its skin marked with florid spots; the hinder parts of the loins were low, like those of a lion, but the shoulders, fore-feet, and breast, were elevated above proportion to the other parts: the neck was small, and lengthened out from its large body, like that of a swan; the head in form resembled a camel's, but was in size about twice that of a Lybian ostrich, and it rolled its eyes, which had a film over them, very frightfully. It differed in gait from every other land or water animal, and waddled in a remarkable manner; each leg did not move alternately, but those on the right side moved together, independently of the other, and those of the left in the same manner, so that each side was alternately elevated. The animal was so tractable as to be led by a small string fastened to the head, and the keeper could conduct it wherever he pleased, as if with the strongest chain. When it appeared, it struck the whole multitude with terror; and it took its name from the principal parts of its body, being called by the people, extempore, camelopardalis.'"

THE VETERINARIAN, APRIL 1, 1830.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

CONNECTED with the subject of soundness, which neither we nor our correspondents have yet abandoned, the following account of the *law* of the case, and of the sale and warranty of horses generally, is so much to the purpose, and so pithy, that we are convinced it will be acceptable to our readers. We extract it from the "Law Magazine, October 1828."

"Lawsuits, it has been justly remarked, originate less frequently in the positive dishonesty and bad faith of the litigants, than in their gross misconception of each other's rights and liabi-

lities. We therefore conceive, that an occasional purchaser would often, by a very slight acquaintance with the first principles of the law of sales and warranties, be not only delivered from much anxiety in negotiating this *awfully* delicate bargain, but he also, in many instances, would escape the misery of being driven to contend for his rights in the dreaded arena of a court of justice. Our observations on warranty shall be preceded by a cursory survey of the general contract of sale itself, in the course of which we shall select for our more particular notice, out of the multitude of rules by which this contract is more or less directly governed, a few that are marked by some degree either of difficulty or peculiarity in their application to our subject matter, and a few others of primary importance, though not similarly distinguished; being compelled to a selection of some sort, by the obvious impossibility of even alluding, in the compass of a few pages, to a hundredth part of the incidents which ought to be treated of in a regular dissertation on this subject."

"A sale is defined by Blackstone to be 'a transmutation of property from one man to another, in consideration of some price or recompense in value.' But the terms of this definition, as the celebrated commentator immediately subjoins, are evidently too comprehensive, as they embrace the case of an exchange as well. *A transmutation of property for a pecuniary consideration* seems, therefore, to be the proper definition of a sale. It is a transmutation of the right of *property* in goods, let it be remarked, as contradistinguished from the mere right of *possession*.

"To enable society to enforce the obligations resulting from such an engagement, some satisfactory remarks are obviously requisite, of the mutual consent of the contracting parties having existed in a serious and deliberate form. By the Statute of Frauds it is enacted, 'that no contract for the sale of any goods, wares, or merchandize, for the price of £10 or upwards, shall be allowed to be good, except the buyer shall accept part of the goods so sold, and actually receive the same, or give something in earnest to bind the bargain or in part of payment; or that some note or memorandum, in writing, of the said bargain be made and signed by the parties to be charged by such contract, or their agents thereunto lawfully authorised.'"

In regard to Delivery and Acceptance,

"It is necessary to observe that a manual transfer or *actual* delivery and acceptance is not in every case essential; for the law will often, from certain acts, *imply* a delivery to satisfy the statute. In a case, e. g., where the plaintiff, who kept a livery stable and dealt in horses, was in treaty with the defendant for the sale

of two horses, and the defendant offered a less sum than was demanded, but at length sent word that 'the horses were his, but that, as he had neither servant nor stable, the plaintiff must keep them at livery for him;' the plaintiff, upon this, removed them out of his sale stable into another stable; and it was held that there was here a sufficient delivery to satisfy the statute. The key to this and similar cases seems to be, that the vender, by the terms of the bargain, is converted into an *agent for the vendee*, and thus occupies the double character of principal during the sale, and servant upon its completion. It is also sufficient evidence of a delivery, if a purchaser, with the privity and approbation of the vender, exercises any act of ownership over the goods, though their local situation remains unchanged; as by selling (or even showing the animal out for sale) to a third person, or marking the animal in any manner. Delivery to a servant or agent is equivalent to a delivery to the employer himself."

In regard to Earnest,

"It would seem that giving a piece of money, however low its value (supposing it to be 'altogether parted with'), is sufficient to bind the bargain."

In regard to any signed Note or Memorandum.

"It may be useful to observe that, although the names of *both* parties must appear upon the face of the memorandum, or, at least, in some *writing* capable of being connected therewith by sound legal inference, yet the signature of the party sought to be charged, or of his agent, is sufficient. And this term, *signature*, be it observed, is not here used in the limited sense of *subscription*, so as to require the party to sign his name *at the end* of the instrument, but is equally applicable in whatever part the name is written. Whether sales by public auction are within the Statute of Frauds has long been a disputed point; the later opinion is in favour of their being so; and it, therefore, becomes necessary to mention here that the auctioneer is, in such sales, the *agent* of *both* parties."

"Upon the regular completion of the sale, the property in the article is transferred to and absolutely vested in the vendee; and the purchaser thenceforward stands by all risks, and is the sole sufferer from any injury which may happen to the animal, otherwise than through the negligence of the vender. As in the example given by Blackstone: If A sells a horse to B for £10, and B pays him earnest, or signs a note in writing of the bargain, and afterwards, before the delivery of the horse or money paid,

the horse dies in the vender's custody, still he is entitled to the money, because by the contract the property is in the vendee."

"But although the right of *property* is thus absolutely transferred by the contract, yet, unless payment be expressly postponed to a future day, the buyer will not be entitled to *possession*, without tendering the stipulated price."

"We now come to the important doctrine of *Warranty*, which is thus summed up by Lord Coke. 'By the civil law, every person is bound to warrant the thing that he sells or conveys, although there is no express warranty; but the common law binds him not, unless there be a warranty, either in deed or in law, for *caveat emptor;* the meaning of which Latin expression is, that the buyer takes the article sold with all its defects, and must not look to the law for any redress if its intrinsic worth do not correspond with its outward appearance. It cautions the buyer, therefore, according to the Italian proverb, "'that he has need of a hundred eyes, but the seller of only one."'

"By the law of England, warranties are divided into *express* or *implied:* the latter, however, differ in no respect from the former except in the circumstance of *proof*. The intention to warrant is collected from the whole tissue of circumstances proved, and as a legitimate deduction from them, like the presumption of any other part not established by direct evidence; while the *express* warranty is proved by direct and express testimony to the fact itself. To give a single instance: In Jones *v.* Bowden, it was proved to be the uniform course and habit of dealing in a particular place, if the article were sea-damaged, to state that fact on the sale of it: a sale was made without any such statement, and it was therefore held that the article was warranted not sea-damaged. This was an *implied* warranty."

"A warranty can only exist as a term and condition of the contract of sale, into the very essence of which it so completely enters, that a breach of it entitles the buyer to treat, if he pleases, the whole contract as a nullity. It constitutes part of the inducement or consideration for the purchase. It follows that, for a warranty to be valid, it must exist or be made *at the time* of the sale; or, at least, that, being agreed to be made before, there should be an understood reference at the actual sale to that agreement. As, for instance, if, previous to the time of the sale, the vender says he *will* warrant the goods, and having named his price, gives the vendee two or three days to consider of it, and the vender then agrees to purchase, the warranty, though only made hypothetically, is tacitly incorporated into the terms of the sale, and is a valid warranty."

"But a warranty made *after* the completion of the sale is of no value whatever, being without any consideration."

"From these premises also, coupled with the rule that where a contract is reduced to writing, the writing is the sole legitimate evidence to prove its terms, we may further deduce that an oral warranty made previously to a sale by written contract, but not inserted in the instrument, will not be valid. Thus in Pickering *v.* Dowson, Gibbs, C. J. says, 'I hold that if a man brings me a horse and makes any representation whatever of his quality and soundness, and afterwards we agree in writing for the purchase of the horse, *that* shortens and corrects the representations; and whatever terms are not contained in the contract do not bind the seller, and must be struck out of the case.'"

"It is also a rule of law, that where a commission is given to execute any work, every power necessary to carry it on will be implied. A servant, therefore, employed to sell a horse, has an implied authority to warrant that it is sound; and in the case of a *general* agent—for example, the servant of a livery-stable keeper -this warranty will bind the master, though made *contrary* to his express directions; and, in every case, the warranty of a servant or agent, so entrusted to sell, will bind the principal, if he do not expressly prohibit it being made."

"With respect to what declarations of the seller will amount to a warranty, the primary rule for the interpretation of contracts in general is applicable. It depends upon the *intention* of the parties."

"Thus, a simple affirmation of the goodness of an article is a warranty, provided it *appear to have been so intended;* whereas the sublimest epithets that seller ever employed to recommend his goods to a credulous buyer, will be regarded as the idle phraseology of the market, *unless an intention to warrant actually appear.* For example, when the vender declared at the time of sale, that he *could* warrant, it was held to mean that he *would* and *did* warrant. So when the seller affirms that the goods are his property, he is held to *warrant the title.* And, on the other hand, when at the time of sale the seller showed the buyer a written pedigree, which he had received from the person of whom he bought the horse, and said he sold him *according* to that pedigree, the mark being out of his mouth when he bought him, and the pedigree was proved to be false; it was held that this was no warranty. No general rule, therefore, can be laid down on the present head, further than this—that it is from the *intention* of the parties, as collected from the whole transaction, and from the meaning they appear to afford to particular

expressions, that the existence or non-existence of a warranty is to be inferred."

"But the most important part of our investigation relates to the *extent* of the warranty. We must here observe, in the first place, that although a warranty may be made to extend to temper, freedom from blemish, age, aptitude for particular work, and many other similar qualities, as well as to soundness; yet unless expressly so extended, it will be construed *to apply to soundness alone.* Thus, when an ambiguity arose from the insular position of the word 'warranted' in the following notice:—'To be sold, a black gelding, five years old; has been constantly driven in the plough—warranted,' the warranty was held to apply to soundness alone."

"Unsoundness is a term the exact limits of which are not very clearly defined. According to Lord Ellenborough, any infirmity which renders a horse less fit for present use or convenience, is an unsoundness. This doctrine was laid down by his lordship in a case which turned upon an alleged lameness, and wherein it was admitted by a witness for the defendant, that one of the fore legs had been bandaged, because it was weaker than the other: upon this admission, the verdict in favour of the plaintiff seems to have been founded; and it was then observed by the court, 'to constitute unsoundness, it is not essential that the infirmity should be of a permanent nature; it is sufficient if *it render the animal for the time unfit for service:* as, for instance, a cough, which renders it for the time less useful, and may ultimately prove fatal.' Now this decision appears to contradict a prior one, in which Eyre, C. J., held, that a slight lameness occasioned by the horse having taken up a nail at the farrier's was not an unsoundness. This learned judge, in his observations to the jury, remarks—'A horse labouring under a temporary injury or hurt, which is capable of being speedily cured or removed, is not for that an unsound horse within the meaning of the warranty.' If these decisions are not to be regarded as conflicting, one deduction ought possibly to be, that such slight injuries as proceed from external causes, and are with moral certainty to be speedily and effectually cured, do not fall under the head of infirmities, which term properly comprehends such diseases only as may without much improbability hang by the animal through life, while they impair his present usefulness."

"Cribbiting, in its incipient state, has been held to be *no* unsoundness; but when inveterate (and interfering with the health of the animal) it then falls within the meaning of the term."

"It is commonly asserted that a warranty will not bind when it is obviously false; the instance given being that of a horse warranted sound, when it is apparent that he is blind; and for this doctrine, the venerable argument, which makes so conspicuous a figure in legal logic, is usually urged—for that it is his own folly. *For that it is the other's roguery*, might, we think, be an argument of greater cogency the other way, unless knaves in this country are to be regarded with peculiar favour, like idiots in Turkey; but we apprehend that this rule,—if any such indeed exist,—is one of presumption only, it being inferred that both parties meant to exclude the particular defect from the warranty. The case of Shillitoe *v.* Claridge, however, goes far towards disproving the existence of such a rule."

Let us now consider how the rights of the parties are affected by the horse being unsound at the time of warranty. The contract being thus broken on the part of the seller, it is at the buyer's option either to treat it as a nullity, and return the horse, or to retain him notwithstanding, and bring an action on the warranty. In the former case, the price paid is the measure of damages, which he will be entitled to recover in an action; in the latter, the difference between that price and his real value. If he offer to rescind the contract, and return the horse, he may also recover the expenses of his keep; but in order to this a positive tender is said to be necessary. No notice of the unsoundness need be given to the vender to entitle the vendee to maintain the action; nor is it necessary to bring the action immediately on discovering the unsoundness. As in a case where a mare was warranted to be sound, quiet, and free from vice and blemish, the buyer, soon after the sale, discovered that she was a roarer, had a thorough-pin, and also a swelled hock from kicking, yet kept her after this for three months, gave her physic, and used other means to cure her. At the end of that time he sold her, but she was soon returned to him as unsound. He subsequently sent her back to the seller as unsound, who refused to receive her, and in returning to the stables she died. He recovered the full price."

"But although such notice be not essential, yet it is always advisable to be given, as the omitting to do so will furnish at the trial a strong presumption that the horse, at the time of sale, was free from the defect complained of, thus rendering the proof of a breach of warranty more difficult. Common justice and honesty, it has been remarked, require that the commodity should be returned at the earliest period, and before it has been so changed by lapse of time, as to make it impossible to ascertain, by proper tests, what were its original qualities."

"To entitle the buyer to the benefit of the warranty, he must, of course, strictly fulfil the conditions stipulated to be performed on his part. Thus, if, as is frequently the case, a condition be introduced into the warranty, that the horse, if objected to as unsound, shall be returned within a limited time, no action can be maintained for the unsoundness without the strict performance of this condition. So where the warranty was qualified by the vender by an undertaking to take back the horse, if, *on trial*, he should be found to have any of the defects mentioned in the warranty, it was held, that the buyer must return the horse immediately upon the discovery of them. When the contract is rescinded by the buyer on account of the warranty being broken, the seller has a right to require that the horse shall be returned in as good condition as he was when the defect was discovered; and, therefore, *if the animal fall into a worse state subsequently to such discovery, the buyer cannot then return him, but must rely on his action to recover back a proportional part of the price.*"

"There being no warranty, but the purchaser having been imposed upon, and entrapped into a losing bargain by the artifices or wilful misrepresentations of the seller, his remedy is an action *for the deceit;* to support which *he must prove a fraud* to have been committed by the seller, and also *that it was such as might well impose upon a person of ordinary circumspection;* or, in other words, that *he was deceived and misled by relying upon the integrity of the seller*, in a point where he might reasonably have placed trust and confidence in him."

"*Any wilful misrepresentations by the vender of the qualities of the commodity to be sold, whereby the vendee is induced to purchase, falls within the legal idea of fraud, and will vitiate the contract*, as being a breach of that good faith which ought to reign throughout every commercial transaction. This may be called *fraud in words*. Thus, if A, knowing his horse to be broken-winded or lame, induce B to purchase, by an assurance that he is sound in wind and limb; then, although A may have expressly refused to warrant, B will nevertheless be entitled to recover from A in an action for the deceit. It is obvious, however, that this action could not be here maintained upon mere proof of the abstract falseness of the representation made by the seller; but that evidence of the moral falsehood is requisite—the seller's knowledge of the falsity, that is called, in technical language, the *scienter*. And herein it is, principally, that this action is distinguished from actions on breach of warranty; for the warranty extends to *all* faults, *known* or *unknown* to the seller."

"The other kind of fraud may be termed *fraud in deed;* and we shall conclude this article by producing an instance which may

serve to exemplify the nature of those acts of the seller, which would fall under this head. 'I remember,' says Gibbs, C. J., 'the case of the sale of a house in South Audley Square, where the seller, being conscious of a defect in the main wall, plastered it up, and papered it over; and it was held that, as the vender had expressly concealed it, the purchaser might recover.' To extend this principle to our subject-matter:—it is conceived if the vender were to deceive the purchaser, either as to colour, which may be easily done by chemical means, or as to age, by (to use a west-country phrase) *bishopping* the animal, he would be liable for the deceit, although no verbal representations had been made."

We with pleasure direct the attention of our readers to the announcement of the "Second Annual Dinner of Veterinary Practitioners" on Thursday the 22d inst. Such meetings are calculated to make those who are engaged in the same science better known to each other, and to encourage a professional and honourable and friendly feeling through the whole body of veterinarians.—We trust that we shall see a numerous attendance.

Review.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

A Treatise on the Care, Treatment, and Training of the English Race Horse, in a Series of Rough Notes. By R. Darvill.

[Concluded from p. 111.]

Chap. VII.—ON PHYSIC.

Mr. Darvill's observations on physic, or rather on *physicking*, go to inform us that race-horses not only require *stronger* doses of medicine than other descriptions of horses, but require purging *oftener*, and *on occasions on which a mere medical attendant would not think of exhibiting medicine at all.* Their habits of life seem to render this necessary; but it appears to be peremptorily called for whenever a horse in training, from accident, or any other cause, is compelled to "lie by," and particularly with craving horses, in order to counteract their "getting lusty," and so becoming unfit "to come to the post on the day appointed."

During the autumn, the period when "the racing season concludes," it is that the *general* physicking of racers takes place. Then the old horses that have been running, are physicked for being "light and stale," and the young ones for being "young, fresh, and lusty:" they are all physicked again when the time arrives

for them *to go into training*, and also, occasionally, while they are *actually in training*. In fact there appears to be (and we are very far from wishing to gainsay the fact) a great deal to be done in conditioning the animal by physic: physic would seem to be the alpha and omega of training, and to be quite as serviceable to the Newmarket groom as to the practising veterinarian: at the same time this dosing regimen may be carried too far; and it is notorious enough that on occasions a great deal of danger and harm has resulted from its indiscriminate adoption. Our author appears to be alive to some of these dangers, and accordingly has furnished the groom with the following precautions:—

"By way of caution to grooms, and with a view to prevent them in future from falling into similar errors, I will here state different causes from which I have known horses occasionally die in physic. I have already observed that there are some horses much more easily purged than others; but the horse which now and then leads the groom astray, is the one of a craving constitution. A groom generally judges of the constitution of a horse from the size of his carcass and width of his loins, as also from the manner in which he feeds, and from the work he takes in training. From these points he will be able to form a tolerably just idea. When a groom was about physicking a strong, craving, large carcassed horse, his practice was thence to regulate the quantity of aloes the dose was to contain, which, on such occasions, would most likely be from nine to ten drachms of Barbadoes aloes; and it has frequently happened, that a dose of physic of this strength, has had no effect whatever in purging a horse of a strong constitution, when in training. If such a dose of physic had been given to a horse in common use, it would have more than purged him sufficiently; it would, in all probability, have purged him to death. It also occurs at times, that a horse in training is purged for too long a period, or perhaps till he dies, and from the following cause. The groom having given him a dose of physic, such as I have described, and finding it to have produced little or no effect on the horse after a proper interval of time, considers it necessary to give the horse another dose; and in making up this second dose, he concludes it will be necessary to add a larger portion of aloes, perhaps two or three drachms more than was contained in the first. Nor is this a very unreasonable conclusion for a man to make who is unacquainted with the properties of medicine. It is, in consequence of this treatment, that a groom has now and then been so unfortunate as to have a horse die in physic, which arises from his ignorance of the effect of the aloes on the constitution when the quantity is increased beyond that which is generally given at one time, to purge such a horse. When the aloes, being increased to the extent abovementioned, begin to operate, the action is sometimes continued in proportion to the quantity given; and by stimulating so large a surface as that of the intestines of the horse for so great a length of time, and to such excess, the powers and constitution are not able to support it. The general consequence is, great debility and irritation, sometimes followed by inflammation of the bowels, which occasions the death of the horse. This has at times occurred to some grooms, from their having relied too much on the power of medicine alone to purge a strong horse, and merely preparing him for his physic in the usual way, by giving him mashes the day previous, with a view to relax the bowels, and then the first thing on the following morning administering

the whole of the dose at once, mixing therein a very large portion of aloes, for the reason and under the impression which I have already pointed out. Now the common method of preparing the horse, and giving the physic, would be very proper to one which may be easily purged, and which required but a moderate portion of aloes to produce the effect. But to administer physic sufficiently powerful to operate on a horse in training, prepared in this way, and which horse it may be difficult to purge, is rather a dangerous experiment. Nor is it done but by those grooms who are not acquainted with the advantages to be derived, either by giving the physic, or by preparing the horse differently. If the horse be prepared, and the physic be given in the way I shall by and by have occasion to explain, a less quantity of aloes than is usually given will purge a strong horse sufficiently well, and less danger will thereby be incurred.

"Another course of treatment which has at times occasioned the death of a horse by physic, is, when a groom has given a dose which may have remained in the bowels of a horse for a couple or perhaps even three days, without producing any effect whatever (and this is not at all an extraordinary occurrence): the groom considers from the period which has elapsed, and the physic not having worked, that it was much too weak, and finding that it has not operated on the third day, he gives another dose, with an additional portion of aloes in it; and I have known it happen, that in the course of an hour or two after the second dose has been given, the first has begun to operate; the consequence of which has been, the effect of the second dose has been to continue the operation of purging until the horse has died."

Seven or eight days should be allowed to elapse before a *second* dose is given.

Mr. D. remarks with much truth, that the presence of food in the bowels "not only retards the operation of the medicine, but is very often the cause of its not producing any effect whatever." It has now long been our own practice to keep horses under preparation for physic *without any* rack-meat over night: we double their allowance of bran-mash, but give no hay at all until after the purge has been some hours administered. But let us hear Mr. D. himself on this part of the subject.

"On the day previous to giving them their physic, it is necessary, with a view, in some measure, to relax their bowels, that they should be kept during the day on mashes, with a small quantity of hay; and at night they should be sparingly fed with it. Let them have half of their usual quantity: some would be much better without any hay; and such of them as are much inclined to eat their bedding, should have their setting muzzles put on them. On the following morning, each horse should have a double-handful of mash given him; and after each has eaten this portion, they should be got ready and taken out to walking exercise, for a couple or three hours. By taking these precautions,—preparing them with a mash or two the evening before, and keeping them over night short of hay,—the next morning, while at exercise, they empty themselves, and their bowels become relaxed; and when they return to the stables, their physic should be immediately given them; and the following morning, it is more than probable, the whole of them will be found to purge in due time, with a less quantity of aloes than was generally given to such horses. The

groom may add half a drachm or even a drachm of aloes to the quantity to be given to such horse as he is of opinion may be more difficult to purge than the rest; and he may keep him out a little longer than usual at walking exercise, so that he may be more empty when he comes in, and, instead of giving him the whole dose of physic at one time, let the ball be divided;—give one half immediately on his coming into the stable, and the other half at six o'clock in the evening."

When the horse in strong work is "putting up flesh too rapidly," the groom pursues another procedure, which is this:

"It is customary over night, or very early in the morning, to set this sort of horse for his sweat, and in the morning he is clothed up, and goes over the sweating-ground, for the length and at the pace the groom directs. The horse, after being pulled up, is brought in and turned round in the stall, and the customary portion of clothing is then thrown on him, which occasions the horse to discharge most profusely through the pores of his skin for ten minutes, or a quarter of an hour. He is afterwards scraped, dressed, and clothed up, by which time his respiration and pulse have become tranquil. His physic is now given him, and he is then sent out to take the usual gallop, which it is customary for horses to take after sweating. This gallop, I shall by and by endeavour to prove, may, in some instances, be advantageously dispensed with. The horse, after taking his gallop, is brought into the stable, is well dressed, comfortably clothed, and treated as is usual on such occasions; but from the length of time he has been set, and from the profuse manner in which he has been sweated, he is very anxious for his food and water, both of which are given him as directed by the groom; but as he is generally inclined to take more freely of the latter than the former, it promotes the operation of the medicine; and a light dose of physic, of six or seven drachms, given to a horse thus prepared seldom or ever fails in purging him freely the following morning, when he may be walked out, and treated as circumstances may require."

This is a practice, however, incurring some risk of injury to the constitution, of which Mr. D. seems aware, when he adds—

"It is true the groom has obtained his point. By setting, sweating, and physicking, he has brought the horse very light; but from such treatment, (more particularly should the physic have been given a little too strong), a horse becomes too much debilitated; and were not such horses hearty feeders, they would be a long time recovering their former strength: I should, therefore, recommend grooms not to have recourse to this mode of physicking horses oftener than they can possibly avoid."

Chap. IX.—ON CLOTHING, &c.

On this subject Mr. D. observes, "Various are the sorts of clothes, and various are the purposes for which they are used about a race-horse;" and he has furnished us with a chapter concerning them, which affords another proof (were another wanting) that he has spent much of his time in the stable, and that time to more than ordinary purpose: indeed, no person could have written the present chapter who had not devoted some hours to the saddlery as well as the stable, since it not only contains particular directions in the use of clothing, but also instructions for

making it. We have not room for extracts from it; and therefore we pass it over with a recommendation to such of our readers to peruse it for themselves as in any way lack such information; for, though it cannot, perhaps, strictly speaking, be called *veterinary*, yet is it knowledge of that nature, the possession of which will always prove highly useful and recommendatory to the medical practitioner.

Having advanced so far in our review of the literary labours of Mr. Darvill, we find we must, in place of pursuing the course he has set us, take a leap from Chapter IX to Chapter XXII, passing by without notice the intermediate chapters (treating on "Training Grounds," "Race-courses," "Grooms and Boys," "Dressing Race-horses," "Reins," "Riding in Exercise and Sweats," "The Pull and Hustle," and "Public and Private Training Grooms and Jockeys") in order to arrive at what more concerns us, namely, one that discourses

"*On the Treatment of Horses' Feet, and on Shoeing.*

"The feet of race-horses are mostly strong and small, with a deep or high crust. Their heels are also high and strong, and their soles concave." The circumstances of their feet being constantly "covered up with warm bedding," and of the horses "resting by day as well as by night," "occasion the hoofs to contract" in the stable; whereas, "while in their paddocks, their feet are almost constantly moist," and "almost always in action," "exposed to air," and "there is a good deal of weight upon them;" circumstances which "keep them expanded."

For keeping the hoof "tough and elastic," an ointment, "composed of equal parts of tar and mutton suet or lard," is recommended by our author: "to be well rubbed round the hoof twice or thrice a week."

Mr. D. "coincides with the opinion of Professor Coleman," "that the frog is intended to receive pressure." "Neither racers nor hacks have occasion for caulkings to their shoes."

"Race-horses are occasionally subject to the navicular disease; but there are some among them, such as craving ones, which are more liable to become affected with the complaint than light ones, in consequence of their having to go not only long lengths in their gallops and sweats, but occasionally to sweat three times a fortnight, and not unfrequently in the height of summer, in the months of July and August, when most of our training and running-grounds in the south may be said to be very little better (in regard to the hardness of their surface) than turnpike roads." "I think of the number of horses that become progressively lame

from strong and rapid work, not more than half are again brought permanently sound, unless their work is stopped, and early means resorted to for their relief."

Mr. D. next adverts to the asserted fact, " that horses on the Continent are not to be seen lame in their feet to any thing like the extent of our horses in England," and, very properly, denies that this is to be referred to any " superiority" in their method of shoeing; but is rather the result of the absence of causes which tend to induce inflammation in the feet, the principal of which is the rapidity and duration of the pace our stage-horses go at, compared with the Continental horses; and the kind of feet possessed, generally, by the latter, which are such as are least of all disposed to the navicular disease.

In the form of the shoe, we quite and entirely concur with Mr. D. " The surface of the shoe next the foot may be perfectly *flat*, but the surface next the ground should be gradually *bevelled off all round*, from the fettering or nailing part to the inner edge, to give a horse a firmer hold on the ground with his feet."

CHAP. XXIII.—ON PLATING RACE-HORSES.

" Racers should always be plated before they are brought to post, where it can be done with safety. All men conversant with the turf are fully aware of the very great importance of weight. They consider, and very justly too, that every ounce is of consequence, when horses are supposed to be equally matched, and more particularly when they have to come long lengths."

As an accident may happen, even under the best and most careful hands, it is advisable " to plate horses the evening before running, after their coming in from exercise. On the morning that a horse is going to run, it is usual to walk him out on the heath, and then let him take a short canter, merely to see if all is right, and he is well on his feet and legs. If the horse is observed to go stiff or short, and if the groom is of opinion that this is occasioned by any thing wrong about his feet, there will be time to remove the plates, and to give the nails less hold or a different direction."

As directions to be attended to in plating horses, Mr. D. observes, " If there is any difference to be made between the size of the shoe and that of the plate, it is that the latter should be rather less than the former in its circumference round the foot, so that the plate may, to a certain extent, rest in the bed which may have been formed by the shoe. The plate should not, by any means, project beyond the edge of the hoof. And as the crust or wall of the hoof that has often been plated may be more or less broken, the groom should direct the smith, as he is measuring

the foot, to make his observations on the most sound part of the crust; and as the nail-holes of plates are placed farther apart than those of shoes, it sometimes gives the smith the advantage of driving his nails into the more sound parts of the foot."

"As plates are narrow, they cannot well come in contact with the sole: they may, therefore, be made flat on both sides. For moderate sized horses plates need scarcely ever exceed in breadth three and a half eighths of an inch. The fullering cannot, well, be too coarse, provided it does not too much weaken the plate: it must be made in the centre. The depth of the fullering must be regulated, and the nail-holes punched in it, according to the substance of the plate and the size of the nails likely to be used in putting it on: the heads of the nails (when driven home) should be buried, and on a level with the surface of the plate. In good feet, the nail-holes should begin where the toe may be said to end. There should be four nails on each side: the first and second nail-holes from the toe may be punched an inch or more apart. Be this as it may, the smith must observe to regulate the distance here between these two holes so as to admit of his punching the third within the distance of about an inch and a half of the end of the heel of the plate; and in the centre of the space then left, between the third nail-hole and the end of the plate, the last hole of the four should be punched: otherwise, the plates, particularly of the fore-feet, will spring at the heels, from the concussion produced by severe running upon hard ground."

The plate may be either a *full-plate* or a *three-quarter-plate;* the differences being in their length at the heels, and the latter "seldom requiring more than three nails on each side." "A three-quarter-plate is more generally used for country plate horses; their feet having got out of order from repeated running and travelling, together with the necessity there is of frequently removing their shoes and plates. Some horses' feet will allow of a plate of this sort coming within half-an-inch of the end of the heels; and others may not allow of its coming within an inch or more. It is the soundness and substance of the horses' heels and quarters which must regulate the length of the plates." "If a horse is a long striding one, and a free-runner, he is likely to be rather a difficult one at his turns; and although it may show bad judgment to run such a horse over a small round course, yet if such should happen, it may be advisable, for the safety of both the rider and the horse, to give the latter some hold of the ground by turning up the heels of his hind plates."

"Whether the plates shall be put on in the stable or on the course, will depend on the distance of the one from the other, and also on the kind of feet the horse may have."

"In removing shoes from bad (weak) feet, (for the purpose of plating them) the smith should first knock up the clinches with one end of the buffer, and then with the other start the nails, and afterwards draw them out with the pincers, one by one.

"In putting on the plate, it will be observed, that, if the horse's shoes should not have been removed for three weeks, the hoof will have grown, and from the action and weight of the horse, the shoe will in some degree have imbedded itself into the foot. To this foot, nothing should be done if it can be avoided; but the plate will lie within the seat or bed formed by the shoe, which will support and assist in keeping it in its place, though sometimes it may be necessary to run the rasp lightly round the edge of the crust."

The sizes of nails generally used for plating, are from Nos. 4, 5 and 6.

"If a horse, after running, has a long way to walk from the course, his plates should be carefully taken off and his shoes put on. When he walks home in his plates, it is a practice with some grooms to have the plates removed in the stable, and let the animal stand bare-foot. Of this I do not approve. A horse can bear his own weight, and stand or move about in his stall or box, with much more ease to himself when his shoes are on."

"It used to be the custom (and a very excellent one) to foment a horse's legs and feet after running. I should, after that, put wet pads round the crust of the fore-feet, and stop the bottoms with wet tow, before the stables are shut up at night."

"If a horse's feet are weak and low, and he has to run on hard ground, it would be advisable to let him run in his shoes."

This brings us to the conclusion of Mr. Darvill's work, or, at least, to the end of those parts of it that more immediately concern the veterinarian. In making any comment upon the performance, it must be borne in mind that Mr. Darvill has not only had to enter on a *new* field of literary instruction, but has, avowedly, had to set about the task *under many disadvantages;* and has, finally, done so with very modest and humble pretensions. He does not aspire to *enlighten* the circles at Newmarket: he simply professes to delineate the various trodden paths leading to a knowledge of training; and, considering the circumstances under which he has made the essay, and the notorious difficulties that cross our way even in such apparently plain and straight-forward investigations,

"Difficile est communia dicere *proprie*,"

we must say, we think that Mr. Darvill has some claims to the thanks of the profession. Our own, we freely award him; and wish him, in taking our farewel of his first, like success through his second volume.

Miscellanea.

MR. HOGG ON THE EFFECTS OF MOLE-CATCHING.

[Extracted by permission from the Quarterly Journal of Agriculture, August 1829.]

A COURSE of thirty years' observation over an extensive district of the south of Scotland, and hard-earned experience, have convinced me long ago of the pernicious effects of destroying the moles on sheep pasture. Indeed, I deprecate the system of extermination with regard to any class of creatures with which the all-wise Creator of the universe has seen meet to stock a country. It is altogether amazing of what use they are to mankind, when their qualities are strictly examined and searched into; for it is not fair to judge from casual appearances, without watching the effects.

For instance, who would not think that rooks are a most destructive race? I have often thought so, and I declare have sometimes thought I should be ruined by them when I began to sow early. But I would ask this simple question, Did any man ever see the corn-fields in the vicinity of a rookery thinner or fouler than the other fields in the district? The answer, from a minute observer, will be, that at an average for two years out of every three, they are better and cleaner, and freer of the grub and the wild mustard. In the year 1825, our fields were so completely over-run with the runch or wild mustard, that, for six weeks, there was not a blade of corn to be seen, and every corn and barley field was covered as with gold; but, on the Earl of Traquair's fields around the rookery, there was scarcely a single plant of the noxious weed to be seen. I had no opportunity of viewing other fields in the same situation that season, but have no doubt they were all alike.

I shall only mention one more delightful instance of the same kind. On the winter and spring following the summer above mentioned, this district was inundated with innumerable flocks of wild pigeons or wood pigeons, I know not which, perhaps a mixture of both. For some time, I paid no regard to them, till one morning my maid comes in, and says, "Master, aw wuss ye wud reise out o' yer bed, an' shoot thae cusha doos. Od it's ma belief they're gaun wi' the young clover bodily, an' that they'll no leave a stab o't. There's mair nor a hunder thousand on't the day."

This rather alarmed me, so I got several guns loaded, and gave all the men orders to shoot at them as soon as they alighted. The fun that followed was very amusing. Every workman rejoices in a job of this sort, as a relaxation from labour. The shepherd left his flock, the thrasher his flail hanging over the barn-door, and the ploughman left his plough standing in the

furrow, " to get a pluff at the cusha doos;" and there were they going daily cowering about the backs of dykes and hedges like as many sharp-shooters thundering away as if the French had been in the field. But the marksmen were bad, and the birds shy, and they generally escaped with life, though, by report, at the expense of a number of their feathers. At length, a lad brought in two one day, and on opening the crops, which were crammed one would have thought to bursting, there was not a particle of any thing else in them except the seeds of the runch or wild mustard. I examined the contents of both with a microscope, and called in all the servants to witness it. They were all obliged to acknowledge the fact; and forthwith a bill of emancipation was passed in favour of the cusha doos. The persecution of them ceased, and from that day to this they have been free to come and go at their pleasure.

But the most unnatural of all persecutions that ever was raised in a country is that against the mole, that innocent and blessed little pioneer who enriches our pastures annually with the first top-dressing, dug with great pains and labour from the fattest of the soil beneath. The advantages of this top-dressing are so apparent and so manifest to the eyes of every unprejudiced person, that it is really amazing how our countrymen should have persisted, now nearly half a century, in the most manly and valiant endeavours to exterminate the moles from the face of the earth. If a hundred men and horses were employed on a common sized pasture farm, say of from 1500 to 2000 acres, in raising and driving manure for a top-dressing of that farm, they would not do it so effectually, so neatly, or so equally, as the natural number of moles on that farm would do of themselves.

That pasture land is benefitted by a top-dressing, no man, I think, will attempt to deny. That the moles give it that top-dressing, as few will deny. These are identical self-evident propositions. Then why, in the name of wonder, persist in extirpating the moles? " Because you farmers do not spread the mole-hills," says the laird; " and, consequently, they are suffered to accumulate and cover the surface of your best ground." " Do we not, your honour? Do we not spread the mole-hills? Neither we do. But look you over our grounds in June, in July, or August, if it continue dry, and you will see that the mole-hills *are* all spread—yea, so neatly spread, that you will not find one grain of mould left on another. Look as narrowly as you please over our farms from which the mole-catcher, with his paddle, his traps, and his springs, is debarred, and you will find this to be literally true. You may trust to the lambs and the crows for that—another very curious provision of nature and of Divine Wisdom, that has left no part of the natural process of enriching the soil unprovided for. That the crows scrape the hillocks for food

is evident, and not to be wondered at; but it is very delightful and entertaining to see with what avidity the lambs begin to the spreading as soon as a drought sets in. In the cool of the evening after a warm day, you may see scores, nay, hundreds of them, all as busy scraping the mole-hills as if resolved, like your honour and your compeers, to kill all the *mowdies*. You may sometimes even see the hogs and the gruff old wedders join the lambs in dancing one while, and scraping another, as a piece of excellent amusement. So away with your system of extermination, laird. *Mole* your own farm if you will, but not one of the fellows with the traps and the paddle shall set a foot on my ground. If you persist in laying that tax on me, I will pay the fellows, but let them stay at home; for if, in future, I meet any of them here, it shall not be to their profit."

"But then there is another great evil, against which you can neither have an argument nor expedient. We must either kill all the moles, or give up draining our land, for the moles destroy all the drains, by letting out the water."

"A mere hoax, laird!—a quibble—a begging of the question! I'll confute it by the *argumentum ad judicium*. You know it is now allowed that, in draining sheep-pasture, the drains must be so much deepened as to contain the water in the sub-soil. This system has been acted on now for these many years, by every judicious farmer, for the following palpable reasons: Because, if only the mossy or marshy surface of the bogs is lifted in draining pasture lands, the drains are worthless, and of no avail; for that part being spongy, it sucks in all the wet, and keeps the land as moist as ever. The first sod in draining, you know, sir, rises from the till or sub-soil; it is, therefore, now a universal custom to take another spade-depth out below that, so that the water runs all in the sub-soil, which is generally clay or till. Now, into any of these the moles never enter, but keep boring away in the rich vegetable mould next to the surface; so that the argument, that the moles destroy the drains is equally futile and void of foundation, with the others which have been advanced to their prejudice. It is true, and I admit, that, when a great flood or thaw occurs, and the drains are full of water, then there are to be seen a number of small spouts here and there drawn off by the mowdie holes; but, as soon as the water in the drain subsides, these dry up, and the small pieces of the bog that were watered by these little foul spouts are greatly enriched. But this is only reasoning *à priori*, laird: I shall now proceed to positive demonstration, by a simple statement of facts.

"I shall begin with an instance of the largest magnitude, and one on the largest scale that can possibly be adverted to; and I appeal to the tenants on the estate in question. Nay, I request

an appeal to them, either individually or as a body, if my statement of facts be not correct.

"It is well known that the late Duke Henry of Buccleuch was the first who introduced mole-catching into Scotland, on a scale so extensive and sweeping, that it might be termed an act of extermination for the Scottish moles. He let the moling of his princely domains to a company or companies of Englishmen, who undertook to clear his land of moles and keep them clean of moles for a stated period. As an equivalent to his Grace for the expense thus incurred, a heavy impost was laid on the farmers. The successors of the Duke have followed his example, and the process is still continued in spite of the farmers' most earnest remonstrances to the men employed. They tell them that they cannot, and will not, let a mole live that they can get hold of. And, to say truth, the men have performed their business conscientiously and well.

"But what has been the consequence? Why, no more than this: that, on all the farms that were most over-run with moles, it has reduced the stock, at least, one-sixth, in some instances one-fifth: and not only that, but it has introduced two exterminating diseases, the pining and the foot-rot, which, in some seasons, have nearly annihilated the stocks on these farms, as well as the substance of the men who possess them."

"Why, now, it is wonderful to hear some people's effrontery! It is true that a number of farmers have taken it into their wise heads that what you state is the case; but you have no proofs, none whatever, that the pining and foot-rot are occasioned by the rooting out of the moles."

"Neither have I, that the tides of the sea are ruled and affected by the changes of the moon. But while I see the one always attendant upon the other, without the smallest deviation, then I am forced to admit that there must be some sympathy between them. So is it precisely with these diseases. Neither pining nor foot-rot was known, in this extensive district, at least, till the destruction of the moles, and it is only on those rich lands that were formerly most over-run with them where these diseases have prevailed; while, on the hard heathery soils, where there were few moles originally, and where the herbage was only in a slight degree affected by the innovation, the pining is not yet known, and the foot-rot, if at all, very slightly."

There are no arguments so cogent as a simple statement of facts. And now so sensible are his Grace's tenants of the detriment done to these soft lands and to their stocks by the extirpation of the moles, that two bodies of them have joined in a head, one in Ettrick Forest, and one in Tiviotdale, in order to petition their young chief to spare the remnant of their old friends the mowdies, and suffer them to breed again.

But it is not to the Duke of Buccleuch's lands alone that this practice has been confined; for many are the smaller proprietors who have, at a later period, begun and *moled* their lands, and all the experiments have been followed by the same consequences. I could name eight or nine, and am willing to do so to any gentleman in private, but I do not choose to publish the names of the farms, or of their proprietors. But in all of them, on the very hills and gairs where the moles prevailed most, there did the pining first make its appearance.

The change that has taken place in our country in the course of the last thirty years is truly melancholy to an old fellow like me. Our beautiful ever-green gairs, which were literally covered with mole-hills every summer, on which the ewes lay and the lambs sported, and on which the grass was as dark green and as fine and finer than any of the daisied fields of Lothian, alas! where are they now? All vanished, and become the coarsest of the soil, and thus the most beautiful feature of the pastoral country is annihilated.

Mount Benger, 6th April, 1829. JAMES HOGG.

[We have heard the expediency questioned, even as regards a country in tillage, of that war of extermination which is carried on against the mole. We knew a worthy old gentleman, a sagacious observer, who, to his dying hour, would not suffer a mole upon his ground to be harmed. He had reclaimed from a waste his whole paternal estate, and laid it in grass fields; and he maintained, that the moles were his labourers, yearly top-dressing his grounds, and adding to the depth of the soil and fertility of the sward; and to our eyes, every field seemed to bear evidence of the good effects of this species of natural manuring. Husbandmen, indeed, have long known how to avail themselves of this part of the labours of the mole; but then they have always held it necessary to destroy the labourer.

"Get the moule-catcher cunningly moule for to kill,
And harrow and cast abroad every hill."

But it may be questioned whether the mole does not, in another way, yet more important, benefit the farmer. This is by the destruction of grubs, wire-worms, and the like. It is known that the mole is a very voracious creature. He subsists on worms and the larvæ of insects, which he finds under ground, where no other enemy can reach them; and, at night, he sallies forth and pursues his prey on the surface. It is probable that he then destroys a vast number of grubs and other creatures, whose ravages would all be felt in their season. Can it be, then, that in destroying the mole, we are guilty of the heedless destruction of a friend? The matter is worthy of more consideration than it has, perhaps, yet obtained. We think that a strong case has been made out in favour of the "blessed little pioneer," by our ingenious and kind-hearted correspondent; and that in all the pas-

toral districts of the country, a verdict of "not guilty" may be brought in in favour of the long-enduring mole. Let us hope, then, that henceforward he may be suffered to live in peace, and die of old age, in all the sunny glens and green-sward knolls of Yarrow.—But what will the insulted *gardener* say to this our care of his ancient enemy? "He is a *thief;* he steals my acorns by the bushel, plays the d——l with my onion-beds, and roots up my tulips." Alas, for the little culprit! Within the limits of the ravaged garden, we fear we must give him up to the vengeance of the trap. But on the wide spread surface of the fields, where there are no onion-beds to ravage, and no tulips to be laid waste, and where a little space is yet left for the denizens of nature to breathe and sport in,—is it quite certain that all the mischief which the little mole works to our turnips and our mangel worzel is not paid to us with usury, by the prodigious multitude of larvæ and destructive insects which he consumes? We repeat, that the question is worthy of more consideration than it has obtained. We put the whole question, however, entirely on the ground of expediency, and not of humanity towards the mole. This latter plea were absurd: the mole is himself a beast of prey; he destroys thousands of creatures, having, like him, the fear of death, and endowed, for aught we can ever know, with a sense of suffering as keen as his own. Nay, he is not only a beast of prey, but a very cruel beast of prey. Were we not ourselves an angler—had we not impaled worms alive, and dangled them in a brook—we should condemn the barbarous manner in which he treats the captive worm. He actually *skins* the poor animal before he eats him—skins him alive, we protest; and with a dexterity that would put Sir Astley Cooper out of countenance. Thus, he shows that he can be as nice in his diet, and as cruel in preparing it, as man himself. Besides, when he comes to the surface in pursuit of food, he is *himself* the prey of other animals, more dexterous or more powerful; and chiefly of the owl, from whose formidable talons all his nice sense of hearing, and power of burrowing, do not enable him to escape. Thus, Nature herself provides a remedy for the too great increase of this as of other animals that may injure us. If we suffer our moles to multiply, we may merely substitute for the mole-catcher with his traps, the pole-cat, the weasel, and the owl, with their claws and their teeth; no great change for the better, we imagine, to the sufferer. Death, as well as life, is a law of Nature, and when reason directs us to destroy animals that are noxious to us, it can hardly be supposed that we violate any natural feeling. The question, as regards the mole, then, we apprehend, has nothing to do with humanity to the animal. It is simply, How far it is expedient to allow the multiplication of this class of animals in our cornfields, and how far to prevent it? Whether, in short, the mole does us more injury by his *snout*, than good by his *teeth*?—Edit.]

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ANATOMY OF THE HORSE.

[Continued from page 189.]

4.—STERNAL REGION.

COMPRISING some small muscular slips in the vicinity of and attached to the sternum.

LATERALIS STERNI.—*Costo-sternalis.*

Structure.—Upon the antero-inferior part of the outer surface of the thorax, bordering upon the sternum.

Figure.—Long, flat, thin : trapezoid.

Attachment.—Anteriorly, to the postero-inferior half of the first rib : posteriorly, to the superior three-fourths of the cartilage of the third rib ; whence its aponeurosis is extended to the cartilages of the fourth and fifth, and also to the sternum.

Relations.—Externally and inferiorly, with the pectoral muscles; superiorly, with the serratus ; internally, with the second rib and intercostal muscles.

Direction.—Oblique ; from above downwards and from before backwards.

Situation.—Its anterior attachment is by means of a short flat tendon ; its posterior is entirely aponeurotic. Both its surfaces are partially interspersed with tendinous expansions.

Action.—To operate in the contraction of the chest by approximating the cartilages of the anterior ribs, and elevating, in some measure, the sternum.

STERNO-COSTALES.—*(Externi et Interni.)*

Several fleshy digitations, interspersed with slips of tendon, running from the cartilages of all the true ribs, excepting the first, to the sternum. Their fibres are taking the same course, and are continuous (in the intervals between the cartilages) with the intercostales.

Action.—They seem to be for the purpose of contracting the dimensions of the thoracic cavity.

5.—DORSO-COSTAL REGION.

SUPERFICIALIS-COSTARUM.—*Dorso-costalis.*

Situation.—Spread over the back.

Figure.—Broad, thin, digitated, irregular.

Attachment.—Superiorly, to the ligamentum nuchæ in its extension through the back and loins: inferiorly, to the posterior borders, below their angles, of the 6th and all the ribs behind it.

Relations.—Externally, with the panniculus; anteriorly, with the serratus; internally, with the transversalis costarum, and longissimus et spinalis dorsi; infero-posteriorly, with the obliquus externus abdominis.

Structure.—Consisting of a thin aponeurosis, superiorly; from which originates eleven or twelve broad fleshy digitations: most of them (all the posterior ones) possessing thin tendinous coverings. The aponeurosis itself serves as a faschia to the muscles underneath it.

Direction.—Downwards; with a slight inclination forwards.

Situation.—Upon the supero-lateral parts of the thorax.

TRANSVERSALIS COSTARUM.—*Trachelo-costalis.*

Form.—Elongated; half-penniform: broad in the middle; narrowing towards either extremity.

Attachment—Posteriorly, to the anterior borders of the ribs, near to the spine; and to the posterior edges of their angles: anteriorly, to the transverse process of the last cervical vertebra.

Relations.—Externally and inferiorly, with the last muscle; internally, with the costal arches; superiorly, with the longissimus dorsi.

Direction.—Longitudinal: inclining downwards.

Structure.—Complicated. Consisting of two sets of tendons: one set embedded in fleshy fibres, and serving to strengthen its attachment superiorly; the others are external, distinct from the other parts, are flat and elongated, broad in the middle, growing longer and more slender as they approach the extremities, and fixed to the costal arches. A separate tendon extends to the cervical vertebra in front.

Action.—To elevate the ribs, and thus produce some enlargement of the cavity of the thorax.

LEVATORES COSTARUM.—*Transverso-costales.*

Number.—About fifteen.

Situation.—Deep-seated; upon the back.

Figure.—Flattened; conoid: bases turned downwards.

Attachment.—Superiorly, to the transverse processes of the dorsal vertebræ: inferiorly, to the anterior borders of the ribs, in the spaces between their tubercles and angles.

Relations.—Externally, with the longissimus dorsi; internally, with the ribs.

Direction.—Oblique: from before backwards, and from above downwards.

Structure.—Consisting of bundles of fleshy and tendinous fibres, having a similar arrangement to, and looking like the *heads* or beginnings of, the external intercostals. Their superior ends are interwoven with small compact tendons, whence proceed tendinous slips, which intersect their fleshy bellies. Their inferior parts are enveloped in aponeuroses, which become thin and vanish in proceeding upon their surfaces. The middle bundles are thickest and longest: the anterior ones are but scanty; and the three or four foremost ribs are entirely destitute of them.

Action.—To assist in the elevation of the ribs.

6.—DORSAL REGION.

Including muscles connected with the vertebræ of the back.

LONGISSIMUS DORSI.—*Ilio-spinalis.*

Situation.—Upon the supero-lateral parts of the back and loins.

Figure.—Broad, thick, and elongated.

Attachment.—Posteriorly, to the crista of the ileum, to the side of the sacrum, to the spinous and transverse processes of all the lumbar vertebræ, and to the spinous processes of the six posterior dorsal: anteriorly, to the angles of the twelve posterior ribs, to the transverse processes of all the dorsal vertebræ, and to those of the three or four hindermost cervical.

Relations.—Externally and inferiorly, with the superficialis costarum; internally, with the ribs and vertebræ; superiorly, with the spinalis dorsi.

Direction.—Longitudinal; inclining downwards, as well as forwards.

Situation.—This muscle (which is one of the longest and, at the same time, most bulky muscles in the body) is constituted of a dense and strong aponeurosis; a thick, long, and uniform fleshy belly; and several broad and flat tendons intimately connected with the fleshy parts. The aponeurosis completely invests the lumbar portion of the fleshy belly; with the fibres of which it is so intimately adherent, that they are inseparable by the knife from one another; from which the aponeurosis is continued upwards, to be fixed to the spines of the vertebræ; and forwards, to be spread over the dorsal division of the muscle, upon which

it grows thin and less expansive, and, about opposite to the withers, altogether vanishes. The fleshy part (which in its course adheres closely to the articulations of the vertebræ with the ribs) is pretty uniform in its breadth until it arrives at the withers, opposite to which it divides into three tails or portions, of a flattened pyramidal form, and so disposed that one, more or less, overlaps another. Of these, the inferior division is the direct continuation of the common fleshy belly: from it proceed six or seven flat tendons, which go to be fixed to the ribs at their articulations with the transverse processes. The middle division sends off three broad thin tendons, to be fixed to the three last transverse processes of the neck. The superior division is a small conical slip, ending in a slender tendon, which is attached to the same process of the fourth cervical vertebra. These tendons are all embedded in, and intermediately connected by, continuous fleshy parts, which adhere to the costal articulations at the withers, and to the oblique processes and sides of the bodies of the three posteriormost vertebræ of the neck.

Action.—It will incline to a state of flexion the fore quarters upon the hind; or the hind upon the fore; according as the one or the other are made the fixed points. It is a principal agent in the acts of kicking, and rearing, and leaping. If one acts by itself, the fore or hind parts of the body will be inclined to one side. The pair will also assist in the erection of the neck.

SPINALIS DORSI.

Situation.—Deep-seated upon the withers.

Form.—Thick, elongated, pyramidal: base turned downwards.

Attachment.—Posteriorly, through the medium of the aponeurosis of the longissimus dorsi, to the spinous processes of several of the posterior dorsal vertebræ: anteriorly, to the spines of the six or seven anterior dorsal vertebræ, and those of the three or four posterior cervical.

Relations.—Externally and superiorly, with the trapezius behind, and complexus major in front; internally, with the ligamentum nuchæ; and, inferiorly, it is inseparably united with the last muscle.

Direction.—Longitudinal.

Situation.—The broad and thick part is covered by a broad patch of inseparably adherent aponeurosis, which grows thin and less apparent posteriorly, but, anteriorly, ends in a broad tendon, which pierces the fleshy termination of the belly, and becomes fixed to the spine of the last cervical vertebra.

Action.—To flex or writhe the back upon the withers; and to aid in the erection of the neck.

SEMI-SPINALIS DORSI.

Situation.—Deep-seated, upon the back.

Form.—Half-penniform; elongated; curving with the spine.

Attachment.—Posteriorly, to the sacrum, underneath the posterior spine of the ileum; to the articular processes of the lumbar vertebræ, and the transverse of the dorsal: anteriorly, to the lumbar spines, and those of the back; extending forwards to the withers.

Relations.—Deeply buried underneath the longissimus et spinalis dorsi, and lying close upon the lateral parts of the spine of the back and loins.

Direction.—Oblique, from below upwards, and from behind forwards: the obliquity of the packets increasing from behind to the front.

Situation.—Consisting of a regular series of small fleshy packets, intersected with broad thin portions of tendon, which increase in length with the dorsal spines. The posterior packets are mostly fleshy in substance; but the anterior present several long flat tendons, distinct from the other parts, which are fixed to the spines of the withers.

Action.—To co-operate with the longissimus dorsi in producing a more complete flexion of the back.

[To be continued.]

Communications and Cases.

Ars veterinaria post medicinam secunda est.—VEGETIUS.

ON FEVER IN THE HORSE.

By Mr. GREEN, *V. S.*

[Read at the Veterinary Medical Society on March the 8th, 1830.]

Gentlemen,

IN bringing the present paper on fever before the Society for their consideration, I have taken upon myself a more difficult task, perhaps, than I am aware of; and I feel no small degree of hesitation in producing a paper of this nature before practical men, well knowing how incompetent I am to the task; and among all and the many veterinary works I have consulted, having derived little or no assistance; indeed, the only one that treats of a fever as a disease (*sui generis*) is Mr. Percivall. I have, however, done so, not with a view of offering any thing new upon the subject, but to endeavour to elicit that knowledge from

the more experienced of the Society, which I fear I shall myself be unable to impart.

Though I shall speak of fever in a general sense, it is fever in its idiopathic form I wish particularly to draw the attention of the Society to; diverting their minds from that particular febrile state which is the consequence of or attendant on topical inflammation.

Fever, in its idiopathic form, has been denied by many veterinarians to hold a place in the nomenclature of the diseases of the horse: it is this, chiefly, that has induced me to bring this paper before the Society. I build my faith upon the *ipse dixit* of no man, but endeavour, by circumstances, to judge for myself; and I think I can have no hesitation in stating, from the practical observation I have made, that the horse is as liable to disease under this form as any other; and that it is only from want of circumspection we are so liable to confound it with other diseases of more consequence.

The diagnosis of disease at all times requires no little attention, even in the human subject; then how much more difficult is it in the horse, where we have no tongue to guide us, and we can only judge by concurrent circumstances, which, to say the least of them, are frequently very dubious? I have little doubt but that in the course of time, as our veterinary medical knowledge increases, we shall find him labour under diseases, in various forms, that bear the strongest relation to, if they are not actually the same, as our own, and that we at present believe the animal is not subject to, and differing distinctly, both in nature and effect, from those we now believe of every day occurrence. It is on this account I contend, that a man possessing medical knowledge must ever outvie the mere farrier, who acts upon practice only, and will, in the long run, place the profession amongst those which are intellectual, and where the opinion is formed upon principle and observation, discarding empiricism and ignorant garrulity.

It is not my intention to take up the time of the Society by entering into the varieties of feverwhich affect the human subject, but confine myself to that only which, as far as my observation has gone, the horse is the subject of, viz. inflammatory fever: but before doing so, it may be relative to my present paper to say a few words upon the causes and nature of fever, in a general sense.

The causes and nature of fever have been, from the earliest ages, involved in obscurity; and our ablest medical men, even at the present day, do not appear to throw that satisfactory light upon it, that we may positively say, *sic est*.

Febris is derived from the Latin word *ferveo*, to be hot. Dr.

Cullen describes Pyrexiæ to be, after shivering, or a sense of coldness; a quick pulse; increased heat; with interruption and derangement of functions, and diminution of strength. This class contains five orders, the first of which is divided into six genera, the fourth of which is synocha, or inflammatory fever, the character of which is—

Heat much increased; pulse frequent, strong and hard; urine red; the animal functions little disturbed.

I am here giving the outline of symptoms as they occur in the human subject; and, though I am told by my preceptor I must not, in veterinary practice, reason from analogy, I hope I shall stand excused for differing in opinion, feeling, as I do, it is the only sure source from which I can draw true and just inferences.

As I have before stated, from the first study of medicine by our ancestors to the present period, the cause and nature of fever have been involved in obscurity; physiologists and pathologists holding their particular and various opinions: nor have they always been able to discriminate the disease by any constant set of symptoms. The essence of the disease is supposed to consist in increased heat, in quickness of pulse, in horror or shivering; but this is not invariably the case, for one or the other may not be present, and yet the disease still exists, and which, I think, will at once do away with the arguments (if I may be allowed to reason from analogy) of those who are sceptical, or deny the existence of idiopathic fever in the horse, and say, that, to constitute fever, we must have a cold, a hot, and a sweating stage. This is certainly discernible in intermittents; but in synocha I consider we may have the absence of either, or, though present, they may pass unobserved; yet our patients labour under fever, which we may be able to discern by a combination of other symptoms.

I must not enter into the various discussions on the nature and causes of fever, as that would lead me beyond the limits of a paper of this kind, and would more properly apply to varieties of fever; but as I am here only regarding fever in its simple state, it would take me astray from my present object; I shall, therefore, only briefly allude to them.

Dr. Sydenham defined fever to be a salutary operation of nature to free the constitution from something offensive to it. All fevers were produced by a contraction, and consequently an obstruction, in the capillaries on the surface of the body, the consequence of which was an impediment to the free motion of the heart.

Dr. Boerhaave was a strong supporter of the doctrine of ob-

struction, and supposed every disease to proceed from lentor and viscidity of the fluids; there was no real evidence, however, of any such change, for the discharges are the usual ones. Any changes in the quality of the blood are asserted without proof. It has been examined by every test, and all its properties are found with little alteration, the buffy coat being dependent on other causes.

Dr. Hoffman, on the other hand, considered fever to be produced by a constriction in the capillaries, not owing to viscidity or any fault in the blood or juice, but to an affection of the nervous system; and this, I conceive, will be found to come nearer to our present ideas.

Blood drawn in inflammatory diseases, is at first streaked with purplish lines, and soon a yellow viscid coat covers the red globules, the sides of which rise around, giving the coagulum the form of a cup: hence arises the term of the blood being cupped.

The animal heat is between 98 and 100 of Fahrenheit, and the heat never increases, even under a state of what we term fever, in greater proportion than 15 degrees; and there is one fact worthy of observation, which is, that whatever temperature the atmosphere is of, yet the animal heat continues the same.

A later opinion has been, that fever is only heat, and to be cured by its opposite, cold; but we receive no information of the cause of this heat. When fevers were supposed to consist in increased action, the remote causes were sought in stimuli of every kind; but if stimulus alone would produce fever, exercise and heat would be among its most frequent causes, which is not the case.

Dr. Cullen considered the cold stage of fever, which is the primary one, to be the cause of all the subsequent phenomena; and this he conceived to originate in debility.

Dr. Clutterbuck, one of our best modern authors, refers all the symptoms of fever to an affection of the brain, and, as a conquence, the nervous system; which theory, I believe, is now pretty generally relied on, and will account for all the variety of symptoms we find under the different heads of fever. Dr. Clutterbuck says there is no foundation for the use of the term idiopathic fever, if it be intended to express a state of fever independent of local inflammation; for he maintains, the simplest case of fever, as well as the most complicated, in short, every case of what is termed idiopathic fever, is a mere effect of topical inflammation of the brain. I cannot follow the doctor through his intelligent work; but his theory is one so full of plausibility, that it cannot fail to make considerable impression.

With regard to the occasional or remote cause of fever, I

should say, that cold was the most frequent. We may affirm, that cold is either relative or absolute—relative when in a state of weakness not able to resist, and absolute when cold is applied independent of any thing in the body to favour it. Cold produces fever by causing contraction of the capillary system, and putting a stop to the sensible and insensible discharge from the skin.

I have thus far given an outline of what has been considered to constitute fever in the human subject. I shall now pass on to that which is more to the purport of this paper; namely, whether the horse is liable to such a complaint; and, if so, what are the symptoms, causes, diagnosis, and treatment.

It will be allowed, I believe, that the horse is liable to very many diseases similar in their nature and consequences to those which affect the human subject: allowing this, why should he be exempt from that which we denominate fever? Is it not natural to infer that he also may be subject to many others which, at present, we have passed by unnoticed, from the difficulty of ascertaining them, and the want of competent medical knowledge of symptoms on the part of the practitioner?

From the observations that I have at present been able to make, I believe the fever that the horse is subject to is that which, in medical nosology, we should pronounce synocha, or inflammatory fever, which Dr. Cullen describes to be, heat much increased; pulse frequent, strong, and hard; urine red; the animal functions little disturbed.

It does not appear here necessary to have horror or shivering to constitute fever; and though the would-be-sceptical say we must have the cold, the hot, and the sweating stage present to designate the disease, I cannot, for my own part, see its necessity. It is very likely to pass unobserved, previous to our at all being aware of indisposition, or even to have taken place in so trifling a degree as to escape accurate observation? Such an occurrence is by no means uncommon in the human patient.

Fever in the horse assumes hardly ever any other than a mild inoffensive form; and is no less insidious in its approach than (until it has made some advance, at least) indeterminate in its character. Now and then a cold and even a *shivering* fit is manifest: a sweating stage is rare, but not uninstanced. To assume that either or both of these paroxysms are requisite to constitute it a fever, is not only to show ignorance of the pathological nature of fever, but to argue in opposition to all established practical evidence.

The inflammatory fever may be of two kinds; one idiopathic, arising without any manifest cause, or at least not dependent on

any other disease; the other symptomatic, because it is the consequence of some manifest disease.

Whether fever, however, arise from any local and evident cause, or be self-creative, the phenomena observable seem in nowise to differ; from which we are led to the conclusion, that it is, either case, pathologically considered, the same disease.

SYMPTOMS.

In my narration of symptoms I hope I may be excused for copying from my friend Mr. Percivall, whose practical experience so far exceeds my own; and which detail is so full, that it admits of no addition of mine.

He says, "The horse is at first observed to have become spiritless and heavy: in the stall he stands with his head hanging down, and manifests unusual disinclination to turn or move; out of the stable, he has evidently lost much of his natural vivacity, and is found to sweat on comparatively trivial exercise. The extremities (the ears and legs) and the surface of the body grow cold; the coat becomes roughened; actual shivering, or an approach to it, may or may not occur. He refuses the next feed put before him; or, should he pick at all, he prefers the hay, or even the new straw. By degrees, the sense of coldness leaves the body: at length both the extremities and it grow warm—perceptibly warmer than usual. The mouth, likewise, which was livid and cold before, now becomes hot and dry: the pulse rises with the accession of heat: in all cases it becomes quick; in most, also full; in others, also hard. Respiration is visibly disturbed: the animal draws his breath, though perhaps still but slowly, with a sign of labour or weight evidently unusual. By this time, the early dejection is often succeeded by an unnatural watchfulness: the horse will have his head raised and his ears erect, as if he were in the act of listening, when he proves still, in reality, listless of all around him He has now no appetite. His dung, if he should have lately voided any, is high-coloured, and in small rolls. He stales but little at a time, oftener than usual, and perhaps not without some groan or grunt, or extraordinary effort."

Such are the symptoms as given by Mr. Percivall; and I would state, with him, that we shall find that debility is one of the first changes which takes places; and in all the varieties and changes of appearance, debility will always be a leading feature.

THE CAUSES.

Debility, over-exertion, customary evacuations suddenly suppressed, cold applied to the body while hot. Horses that are

kept in very warm stables, highly fed, and have very little exercise are peculiarly liable to it.

Like most other disorders, however, and oftener, indeed, than most others, fever makes its appearance without any evident or determinate cause, unless we choose to ascribe it to those vicissitudes which are so common at the seasons when fever most prevails. Occasionally it assumes a sort of epidemic form, blended with catarrhal and anginal symptoms: under which type it has obtained the appellation of "catarrhal, epidemic, &c. &c. fever."

DIAGNOSIS.

The only probable disease, I conceive, we are liable to confound idiopathic fever with, is pneumonia.

That disordered or deranged state which assumes the form of fever in the incipient state, may continue and develope itself into a more perfect and decided form of fever; or, it may prove only to have been the precursor of some other disease.

The disturbed breathing in idiopathic fever never amounts to the hurried, laborious, and painful heaving of the flanks we have in inflammation of the lungs. It may be said the same symptoms are present in symptomatic fever, or fever arising from local injury, or where pus is forming: allowed; but then there are always some other concomitant symptoms to guide us, such as cold, clammy sweats, indicative of pain; or the pointing of a foot, if that be the seat of injury. Fever arising from external injury, or from local disease, is commonly more violent and active than any spontaneous febrile attack: it assumes more the form of painful or distressing irritation than mild and progressive disease; and is altogether such as the experienced observer refers directly to its proper source; ever keeping in view the previous history of the case.

PROGNOSIS.

The prognosis will generally be favourable, the most unfavourable and frequent termination being in inflammation of the lungs.

CURE.

In speaking of the treatment of fever, I consider it necessary only to confine myself to it in its simple form, every one being fully aware, that when it is the consequence of local inflammation, that is the primary object to be attended to.

We must be guided in the use of the lancet by the state of the pulse; for, though I would advocate blood-letting under all circumstances that had reference to inflammation, still here it

must be done with circumspection; for I am not one of those who in every case, and indiscriminately, let the disease be what it will, bleed and physick*. In the milder forms I believe the less we do the better, and allow nature to act for us; at least, our measures should be more palliative than active. In the more violent forms, bleeding, regulated, I say, by the state of the pulse; physicking in mild doses, so as to keep the bowels thoroughly open, without amounting to purging; acting upon the skin by the use of hellebore and digitalis; abstinence, green food, cool drinks, and cool air, such appears to be the essential part of the treatment: but no positive treatment can be laid down for every case; the practitioner must be guided by the nature of the case and the state of his patient.

Diseases, no doubt, are often cured by obviating their remote causes; and in this way strict attention to the state of the stomach, from its close sympathy with the brain, is a matter of great importance, and to be attended to here. Though we may not be able so readily to apply this to veterinary practice, still we may do a great deal: and conjoining this with our practical knowledge of the pulse, it is here our medical knowledge will assist us.

Under every form of disease, simplicity of prescription is desirable, more particularly while our resources and powers are abridged by the present limited pharmacopœia of the veterinarian.

* It has often struck me that sufficient attention is not paid to the state of the pulse of the horse by the veterinarian; the quantity of knowledge to be ascertained by it being limited to the quickness or slowness of the pulsations, this being their chief guide in the use of the lancet; but the experienced practitioner well knows that the quality of the pulse will frequently inform him of the nature of the case, and be to him what the tongue of the human patient would be—his director.

I may elucidate this by referring to the state of the pulse in enteritis, where it has the quick, wiry feel, which it is impossible to mistake.

And again, the full, hard pulse we always find when inflammation attacks membranous parts, as in inflammation of the membrane of the brain.

I may not be considered digressing by making the following observations on the pulse. So many different appellations have been given to different kinds of pulses, that it tends more to confuse than assist us; but by attending to the four following rules, we shall find them, I think, quite sufficient, and, at all events, others may easily be referred to them.

The contraction and dilatation of the heart is termed systole and diastole, and the blood being forced through the arteries forms the pulse; and though it will not give us the exact state of the heart, it will give us its relative state.

1st, A pulse where the artery is too much dilated.
2d, Where it is not sufficiently so.
3d, Where it is too frequent in its motions.
4th, Where it is too slow.

In the *incipient* treatment one precaution is to be especially attended to, and that is, that *active* purges must *not* be administered; for, in the early stage, it is quite impossible to say that the case may not be one of approaching pneumonia; and should this happen, and active purgation have been established, we shall but too certainly have cause to rue a practice which has induced so much irritation of the mucous surfaces of the bowels in combination with disorder in the lungs: the two, when present together, being found, invariably we believe, highly prejudicial to the subject of their attack.

ON THE KUMREE.

By Mr. HUGHES, *V. S.*

[Communicated by Mr. Molyneux.]

To the Editors of "The Veterinarian."

Gentlemen,

THE following communication on Kumree, or weakness of the loins, was made to me about three years ago by a Mr. Hughes, veterinarian, in the service of the East India Company. As it tends to throw some light on one of the worst diseases to which horses in India are subject, you may possibly deem it worthy a place in your journal.

"Kumree and Ah-dhrung are the names given to a disease supposed to exist in the loins of the horse; and the words imply as much. Kumree is derived from kummur, and ah-dhrung is synonymous to paraplegia. The causes that produce it are said, by the natives, to be severe exercise, exertion in leaping, or a stroke of the wind; and is by them considered similar to the palsy in the human subject: Mr. W. M. is also of the same opinion. Mr. W. M. was the writer of many valuable subjects which appeared in the Calcutta periodicals on the diseases of the horse: it may not be amiss to observe, that he has been supposed to be the late Mr. Morecroft. He says, that kumree bears more resemblance, in its effects, to palsy than to any other disease by which man is affected: however I do not subscribe to this, for reasons that are obvious: in palsy, the part or limb affected is deprived of sense and motion; in kumree this is not the case. Some are disposed to think it similar to the disease of the spine in the human; but they are widely different: in the human, the patients lose the power of walking, their limbs are frequently convulsed with involuntary twitchings, and they not only become

incapable of walking, but the powers of retaining or discharging the fæces are impaired, and the penis is incapable of erection; in kumree they have a sense of feeling, and can not only put their hind legs in motion, but we daily see such horses work, and some even severely; they pass their fæces regularly, and which seems under the controul of the will; they retain the powers of erection, as was observed in the roan at Balligunge, which, though on the ground and undergoing a severe operation, still had his penis erected. This horse belonged to the Governor General's Body Guard: he had kumree in a slight degree, and was castrated by me for vice: during the removal of one testicle, and till the clams were about being tied on the cord of the other, he actually had his penis erected. In the disease of the spine there is a disease of one or more bones of the spine, with a curvature, however, you may say a disease of the spine might exist without any curvature: neither is it necessary that there be a curvature to produce these effects; but you must allow that these symptoms cannot exist without the bones being diseased. In dissecting kumree horses this has not been observed; in fact, there is no analogy between them.

"Another intelligent gentleman compares kumree to chorea sancti viti, but the absurdity of which I will not tire you by pointing out; for, no doubt, you are perfectly aware of the symptoms of that disease, and will agree with me, that it does not bear the slightest resemblance to it.

"I am of opinion that kumree is a weakness of the hind extremities, produced by pressure on the nerves going to the parts, and is a symptom, or rather a termination of inflammation of the brain or its membranes, which, in the human, would produce hydrocephalus; but probably, from the peculiar structure of the horse, the accumulation of the effused fluid in the head is prevented, and it passes down between the theca when effused. This inflammation is in a minor degree; were it greater, it would produce phrenitis. The causes that produce it are heat, sudden changes from heat to cold and from cold to heat, and plethora: severe blows on the head might occasion it. Mr. W. M. says, that 'the immediate cause seems to be inflammatory action of the vessels, or deposition of pure blood, or of some of its constituent parts, within or upon some very important portion of the nervous system.' In another place he remarks, that, 'when the effusion takes place to a considerable degree in any of the cavities of the brain, or upon its surface, or upon the sheath of the spinal marrow, or the sacral nerves, or of the large nerves of the legs, soon after their leaving bony cases, some of the effects caused thereby are precisely such as might have been expected from pressure.' This perfectly accords with my opinion on it; and I

will endeavour to prove that it is pressure that produces these effects.

"It must be allowed that there is a fluid in the spine, having had proof of it both on the 3d May, 1823, from its flowing out from the horses' heads on their being separated from the body; and also on the 22d of the same month, from its exuding from the orifice made in the head of the grey Arab*. This fluid presses on the whole of the medulla spinalis in the lumbar and sacral vertebræ, and affects the nerves going to the hind legs, producing kumree, or this weakness of the hind legs. This weakness is in proportion to the pressure from the quantity of fluid there is in the spine. It is known that the pressure of a fluid is regulated by its column, and the distance it has to fall, which serves to prove that kumree is occasioned by the pressure of the continued fluid on the nervous mass; for you observe, a horse with kumree will go tolerably well on even ground, but immediately you attempt to force him up-hill, he will stagger, lose the use of his hind legs, and even fall. Why is this? because the fluid will actually, of its own gravity, gain the lowest point, and, the pressure at this time being greater, the degree of weakness is greater, producing a total loss of the use of the hind legs, and bringing him to the ground. The consequences in going down-hill are precisely the same as going up-hill; but it must be recollected, that it is only in very bad cases they are unable to ascend or descend a hill. Notwithstanding the inability of such horses to go up-hill, they are perfectly able to cover mares; but probably the influence of the mind renders them so. Another proof in favour of the pressure of the contained fluid being the cause is, that the grey horse walked better after a portion of the fluid had been evacuated.

"Allowing what I have stated to be the cause of kumree, I am of opinion that any attempts made to relieve it will be futile, unless we could evacuate the fluid without fear of producing a fresh inflammation. The method adopted on the grey horse was pregnant with danger, as the event proved; and I am afraid will never succeed, even were we able to remove the whole of the serum; for a fresh inflammation is produced, and a greater effusion takes place: however, the subject should not be relinquished. Medicaments taken internally, or applied externally, might produce absorption: in the first stages, Mr. Morecroft's plan of bleeding, &c. will probably do good to a certain extent."

That the seat of this disease generally exists in the head, I think there is not a doubt, and not in the back or loins, as has

* Vide VETERINARIAN, vol. i, p. 312, in which the operation performed on the horse in question is fully described.

been supposed. Certainly the disease, or one similar to it, i. e. one producing the same effects or symptoms, may and does, occasionally exist in the loins; but this is from ossific matter or lymph (the termination of inflammation) pressing on some of the nerves connected with the hind extremities.

I am, Gentlemen,

Your most obedient servant,

R. MOLYNEUX, V.S.

April 14th, 1830.

ON SOUNDNESS.

By Mr. CASTLEY, *V. S.* 12*th Lancers: in a Letter to Mr. W. Percivall.*

Jock Lodge, 13th Mareh, 1830.

My dear Sir,

I CANNOT but feel highly flattered with the very handsome manner you have commenced your letter to me on the subject of Soundness, in answer to one of mine.

My friends all know me to be no great hand at bandying compliments; I must, however, say, that there is nothing would give me more pleasure than to have an opportunity of cultivating a more intimate acquaintance with the son of my old and valued friend, and with one who stands so deservedly high in his profession.

The debated point of soundness is one in which, I must confess, I do feel a little interest; and I wish with all my heart it were settled. "It is a subject, be it remembered, on which, of all others, it seems most desirable we should come to some mutual understanding and unanimous conclusion." Yet, I assure you, I had no intention of again stepping into the disputed field amongst the "choice spirits of the age;" and least of all did I dream of having such a formidable antagonist as the author of the Lectures on Veterinary Science.

My former letter, I may observe, was written more by way of comment on the discussions which took place on your paper at the Veterinary Society, than upon the paper itself. Seeing that you were assailed on all sides at these meetings, and conceiving your position to be too extended, I thought, by narrowing it a little, to have made it stronger. I imagined, my dear Sir, I was marching to your assistance. But you will not have it so—you refuse to concentrate, and have rejected me as an ally. I have, therefore, nothing for it but to stand upon my own

ground; and endeavour to keep the nutshell position (I am obliged to you for the term) "as best I may."

I have said, as a general guiding and determining principle, I know of none better than that, in fact, sought to be established in Mr. Percivall's two leading propositions; which, however, I would simplify into one, &c. In this attempt to simplify you tell me I have incurred "heavy and serious consequences." Forsooth for what? merely because I have made an effort to free a complicated question from all the metaphysical subtleties with which I beheld it environed and perplexed; and have recommended a broad line and simple rules, that every body might understand. "This is the head and front of my offending." You yourself own you have found it "an intricate question—surrounded with difficulties on all sides;" and yet when an attempt is made to clear away some of its superabundant complexities, you turn round upon your friend and threaten him with "serious consequences."

You accuse me, too, of enlisting under the banners of the Professors. I must protest, however, I was not aware of their presence in the contest; and, although I have every respect for both of them, yet I feel no hesitation in saying, that, upon this point at least, I am not disposed to follow either of them, with a blind adherence, to the *ultima thule* of their ruling principles. I have always considered it unfortunate that those we have so long looked up to with a kind of habitual deference should hold discordant opinions upon a point of such vital importance, both with respect to the profession and the public. If I understand them rightly, Mr. Coleman goes entirely upon function, capacity, or capability to perform; whilst Mr. Sewell insists upon it, that nothing but disease can be said to constitute unsoundness; and that every deviation from natural structure, whether it interferes with the function of the part or not, being disease, is, consequently, to be called unsoundness. Now it has always appeared to me, that in this matter "they both are right and both are wrong," if I may so speak; for, although the extreme points of these two positions differ so widely that they can never be reconciled, yet, for every practical and useful purpose, they will be found to be still necessarily and intimately connected, I may say almost inseparable. For instance, they both unite and agree in considering a cataract, roaring, broken wind, &c. unsoundness; for here we have both structural change and functional derangement present; and whenever this is the case they "both are right."

Now with respect to the extreme points of these two ruling principles, I may observe, Mr. Coleman used to illustrate his by

saying that "every horse is to be considered sound if he can perform the ordinary duties of an ordinary horse," and *vicê versâ*. According to this doctrine there are a great many horses naturally unsound; for instance, those of delicate stamina, or what are called washy horses, and others not gifted with much power of continuance. This is a thing the world will never subscribe to, no more than to the extreme point of Mr. Sewell's rule, which declares not only a splent to be unsoundness, but includes broken knees—even a wart, or the least blemish of any kind. This, I say, the non-veterinary community will never agree to—they term it fastidiousness on our part; and let me say, the opinion of the public is by no means to be either despised or neglected. Much greater people than we are, I may observe, are obliged to pay due attention to popular feeling, to opinions expressed, as it is called, "out of doors." Practical men have, therefore, found it right to steer a middle course; and I am convinced it is that which is best calculated to give satisfaction to all parties. It is upon this view of the matter that I venture the following propositions, in which I have endeavoured to trace the line I have always found practically *right;* and they will be found in accordance with the two or three plain and simple rules I recommended in my former letter. Let no one object that these rules are incomplete; for, whatever principle we may ultimately adopt, something must still be left to the discretion, or I would say to the discriminating judgment of the practitioner.

In stating these propositions, that I may make myself as clearly understood as possible, I shall accompany each with a kind of "interpretation clause," or exposition of the extended meaning the words are intended to convey, and illustrate them with some examples as we proceed; for laws should be plain and intelligible to the meanest capacity. I propose, then,

1st, That all recognised disease constitutes unsoundness *for the time being*. This I take to be self-evident, sufficiently understood, and no examples are necessary.

2d, That changes of structure, or an altered condition of parts, and derangement or impairment of function, are allowed by all to be our two great landmarks in conducting examinations for soundness. When both these states are present and visible, as, for example, in cataract, the loss of an eye, lameness where the cause is plain and apparent, we can have no difficulty in deciding; or, when the structural change is not visible, but we can infer its existence from the interruption, the derangement or impairment of function which we observe and detect to be present, as in roaring, chronic cough, broken wind, spinal injuries, and lameness where the cause may not be plain and apparent,

we still can have no difficulty in pronouncing the animal unsound.

3d, That in those instances where we do find an altered condition of parts, or a deviation from natural structure, but which is not accompanied either by lameness or with any perceptible interruption, impairment, &c. of function, we are to be guided in our decision by the light of experience, and the practice which time has sanctioned in like cases.

If the structural change we observe be of such a nature as to be likely, in our judgment, to cause lameness, or to interfere with the function of the part, either when the horse is put to work or at no distant period; for instance, a spavin, a ring-bone, certain deformed states of the feet, &c., it is our duty, and I am sure it will be our safest rule, to call it unsoundness. But if, on the contrary, our experience has enabled us to say that the deviation from natural structure which we observe will never, in all probability, either be the cause of lameness, or in any way interfere with the utility of the animal, as a splent, a sore frog, slight capsular enlargements, the remnant of a curb, and the like, we ought to give a verdict of sound.

These rules apply equally to constitutional as to local causes of unsoundness: "where the structural change is not visible, but we can infer its existence from the interruption, derangement, or impairment of function we observe and detect to be present." This rule will apply to all altered conditions of the visceral and other organs, as far as such diseased states can be ascertained.

Now I hope I have spoken out plainly, so that every body may understand me; for the non-veterinary world, as well as ourselves, have a right to be satisfied upon this point.

You have put me upon the defensive—have forced me to shew front, and to deploy a little into line; but I am still in the *nut-shell* position, as you may perceive; and it is not my intention to leave it, I assure you, or to admit into it any thing of a doubtful character. For as to the question of, whether a horse having one disease upon him at the time of sale is returnable for another that may supervene, so much will always depend upon what is said when the transfer takes place, and upon the subsequent treatment of the animal, that I must still persist in consigning this point to the lawyers, as one more properly within their province than ours—one that has more of law than physic in it. If a horse be suffering under catarrh at the time we examine him it will be our duty to point this out, as he is, *at that time*, in fact, in a state of *recognised disease*; and if the buyer chooses to take him with this *flaw*, he can have nobody to blame: but if the

seller says, " It's of no consequence—I will be answerable for it," I apprehend he makes himself liable to an action at law should inflammation of the lungs shortly after set in. Then, again, much will depend upon how the animal has been treated in the intermediate time. Our evidence on such occasions will be wanted principally to establish the fact of the catarrhal affection being present at the time of sale ; and we shall have to give an opinion as to its continuance or termination : the lawyers will settle all the rest. I repeat, therefore, I would resign this point entirely to them.

You say I seem to have mistaken you with regard to natural defects, deformities, &c. That part of my letter, I beg to observe, alluded only to what was said at the discussions, not to any thing advanced in your paper.

I cannot, I must confess, see my way at all clearly through your third corollary proposition ; viz. " That every horse is to be regarded as unsound in that state in which (although he is free both from disease and lameness) he is not equal to what he ought by nature to be adequate ; or, in other words, in a state in which he, compared with another horse who is not in that state, labours under manifest unnatural incapacity." This seems to open a door that would lead—I do not profess exactly to know where ; but I think we should find ourselves upon the very extreme point of Mr. Coleman's position, and, consequently, on the horns of a dilemma. Stripped of the luxuriant, and I cannot help thinking the somewhat too enigmatical dress, which obscures this proposition, does it not, in plain terms, amount to this—that every horse is to be regarded as unsound if he cannot perform the ordinary duties of an ordinary horse. A doctrine, I repeat, that the world will never subscribe to. And I am not one of those, I say it again, who profess to despise the opinion of the public.

In conclusion, I would observe, that if we cannot agree amongst ourselves upon two or three plain and simple rules, as a guiding principle upon which to conduct the examination for soundness, we had far better have let the subject alone altogether. I have endeavoured to trace out the practical, or rather I would say the practicable, line. If I have taken a sound view of the matter I shall expect to be supported by some of the practical part of my brethren ; and if I am not, I shall begin to suspect " there's something rotten in the state of Denmark." But, in the mean time, depend upon it I shall fancy myself quite snug in this said nutshell position of mine.

I have endeavoured to free this " intricate question" from the " difficulties that surrounded it on all sides." I have ventured

to lop away all extraneous matter; and now I hope I have done with it for ever. As Johnson says, "I dismiss it with frigid tranquility."

I hope I have fairly stated the question as regards the Professors; and if, in the course of these observations, I have unwittingly trod upon any body's corn, I am ready to say, "I did not intend it." Between you and me I should hope there never can be any other feeling but that of kindness. Believe me always yours, &c.

ON BREEDING.

By Mr. KARKEEK, *of Truro.*

[Continued from p. 197.]

VARIETIES IN FIGURE AND STATURE.

"Then from whate'er we can to sense produce,
Common and plain, or wondrous and abstruse,
From Nature's constant or eccentric laws
The thoughtful soul this general inference draws,—
That an effect must presuppose a cause."

WERE it possible to ascertain the primeval state of those domestic animals which either immediately or more remotely conduce to the support and happiness of mankind; and could trace out the various changes which art or accident has, in successive generations, produced in each, few inquiries would be more interesting. But our sources of information are not sufficient to direct us in our inquiries, as we are still ignorant of the native country, and existence in a wild state, of some of the most important of our domestic animals, that have departed so widely from their prototype, that we are unable to distinguish the common stock from whence they originated.

In countries where the influence and operations of man have had but little effect, we can discover the most wonderful adaptation, in the structure of animals, to the nature of the country. The climate and soil of Arabia, for instance, appears particularly calculated for rearing animals of great speed: the fleetest animals in the world abound there, such as the antelope, the ostrich, the horse, the ass, and, lastly, the camel, which is said, by the Arabs, to be capable of travelling as great a distance in one day as their best horses can do in five.

Those animals, on account of their great speed, are well calculated for migrating in quest of food and water: this, it appears, they oftentimes are obliged to do, on account of their country

being subject to seasonal parchings; whilst, on the contrary, in plains of great extent, as those of India and the Savannahs of North America, which afford pasturage at all seasons, we discover them to be inhabited by animals of the larger kind, such as the ox, the buffalo, and the elephant; who, on account of their immense bulk, are not so well adapted for travelling in quest of food.

"Every soil
And clime, ev'n every tree and herb, receives
Its habitant peculiar."

The wisdom with which nature has settled the proportions and size of animals to different countries is wonderful: she alone produces nothing but rational harmonies.

"Continuò has leges æternaque fœdera, certis
Imposuit natura locis, quo tempora primùm
Deucalion vacuum lapides jactavit in orbem;
Unde homines nati, durum genus."

Experience and observation appear to have sufficiently proved that animals have a natural tendency to adapt their habits to every climate in which art or accident places them.

"Nature, in every change,
In each variety, with wisdom works;
And powers diversified, of air and soil,
Her rich materials."

The first horse was, without doubt, the model upon which all horses were formed; but this shape has undergone such a variety of alterations by the influence of climate, soil, and manner of living, that although the original impression is still preserved in each individual (for in all the different varieties the relations of the bones remain the same), yet there is not one which exactly resembles another, nor, of course, the model from which they originally sprung. Nature appears to have varied her means according to the obstacles to be surmounted: thus, animals who are inhabitants of swampy places, as "the hog," for instance, "would frequently sink into the deep marshes, had not nature placed above his heels two prominent excrescences, which assist him in getting out." The ox, who frequents the marshy banks of rivers, is similarly provided, and for the same wise and beneficial purpose: the horse, reared in the humid pastures of the north, possesses a broad flat foot, which is not better suited to its peculiar situation than the small contracted foot of the eastern horse to the arid deserts of Arabia. Every kind of soil has its peculiar properties, capable of influencing the figure of animals,

birds, and plants. Virgil, in his rules for the improvements in husbandry, has described the influence of climate and soil on the different productions of the earth: they are so just, and likewise so general, that they require no apology for their insertion:

> " Hic segetes, illic veniunt felicius uvæ:
> Arborei fetus alibi, atque injussa verescunt
> Gramina. Nonne vides, croccos ut Imolus odores,
> India mittit ebur, molles sua thura Sabæi?
> At Chalybes nudi ferrum, virosa Pontus
> Castorea, *Eliadum palmas Epiros equarum.*—GEORG. *Lib.* i.

The influence of climate and soil on the horse species has been observed from the earliest antiquity. Herodotus remarks the different countries that are celebrated for peculiar breeds of those useful animals. " The horses of the Sigynæ," he says, " a people beyond the Ister, are so low in stature, and of such feeble make, as not to be able to carry a man. Those in the Indies," he observes, " the last inhabited country towards the east, were also exceedingly diminutive; whilst those of Thessaly were considered so very large and beautiful, and were held in such high estimation, that Admetus, prince of Thessaly, on the death of his wife, ordered his subjects to cut the manes of all the chariot horses.

> " Τεθριππα τε ζευγνυσθε ϰ μοναμπυϰας
> Πωλας σιδηρῳ τεμνετ αυχενων φοβην."

This speech being as much as to say, " All that belongs to me, all that have any share of my regard, shall aid me in deploring my domestic loss."

Nisæus, a district in Media, was likewise remarkable for producing horses of an extraordinary size. Xerxes, in the Grecian expedition, was drawn in a chariot by Nisæan horses. Strabo also takes notice of them: he says, that they were used chiefly by kings, being the best and largest breed.

> " Αριστοις εσι ϰ μεγιστοις:"

They are said to have been of a golden colour,

> " Ειναι ξανθας πασος."

Horace sings the praises of Argos, a city of Achaia, which, for the great store of pasture for horses was called Argos Hippium, to distinguish it from other cities of that name in Greece.

Horses are reared in every county in England; but the greatest number of good ones are produced in Yorkshire, where they are particularly celebrated for their spirit and beauty. This county has long been famous for its superior breeds, and may be re-

garded as the modern Thracia, for the nursing soil of martial steeds *.

But although there is this variety observed in their general appearances, there is, at the same time, a certain cast of countenance, and peculiarity of form, common to particular races of horses, belonging to particular countries, and even to particular districts.

Horses, for instance, similar to the Arabian breed, cannot be perpetuated in England. France and Germany are incapable of rearing horses like unto the English breed; nor can horses similar to those that are produced in the county of Yorkshire, be eternized in any other part of England. "In Norfolk, the breeding of saddle horses has been repeatedly attempted without success. Yorkshire stallions have been, and still are, sent into Norfolk, in the covering season. The foals may be handsome, but they lose their form as they grow up; whilst, in Yorkshire, let the foal, when dropped, be ever so unpromising, it will, if any true blood circulate in its veins, acquire fashion, strength, and activity, with its growth †;" making good the French idiom,

"Mechant poulain peut devenu bon cheval."

In the midland districts, as Lincolnshire, Derbyshire, and Leicestershire, the breeds of horses are chiefly those of the heavy black kind: they produce them in great numbers; but all the care and attention imaginable would be thrown away in attempting to perpetuate the breed of those bulky animals in any of the western counties. Brittany has long been celebrated for two distinct breeds of horses—one for the purpose of draught, of great size and activity; the other breed is that of bidets, or galloways, from thirteen hands to fourteen and a half high. An anonymous correspondent in the "Sporting Magazine," under the signature of "Old Forrester," a gentleman who has proved himself to be well acquainted with the natural habits of the horse—

"A skilful horseman, and a huntsman bred,"

clearly shows this to be the effect of climate and soil. "Lower Brittany," he says, "is to France what Wales is to England: the two countries strongly resemble each other in mountainous scenery; and in features, figure, and language more especially, the Welchman and Breton closely resemble each other; indeed, they are able to converse with each other with very little difficulty. It is not surprising, then, that even their domestic animals, such as cattle, sheep, and horses should be about the same stamp."

* Δια Θρηκης πωλοτροφου.—Hesiod.

† Marshall's Rural Economy.

"In France," says Buffon, "it is impossible to perpetuate the race of Spanish or Barbary horses; they degenerate even in the first generation; and in the third or fourth, unless the breed be crossed by the importation of fresh stallions, they become altogether French horses. The same variety that is seen in the horse species is also observed in the numerous breeds of cattle. The varieties of those animals that are dispersed over the different parts of Great Britain are so extremely numerous that no correct account of them has ever yet been published. In situations where they are brought from different parts of the kingdom, as at the London or Bristol markets, the different breeds appear, when contrasted, as so many distinct species.

"Long horned and short, of many a different breed,
Tall, tawny brutes, from famous Lincoln levels,
Or Durham feed;
With some of those unquiet, black dwarf devils,
From nether side of Tweed,
Or Frith of Forth,
Looking half wild with joy to leave the north."

Almost every district or county has its peculiar breeds, which are generally distinguished by the names of the particular districts where they are most prevalent, and which variety, in most instances, is undoubtedly the most proper and suitable to the soil.

Food and temperature are the principal agents in producing the diversities of form and figure of animals. Horses that are natives of dry and light soils are generally conspicuous for elegantly formed heads, knit limbs, clean legs, and small hoofs; combined with beautiful symmetry and graceful movements: whilst those that are reared in moist ground and rich pastures have invariably large heavy heads, gross bodies, thick legs, and broad hoofs. In temperate climes they grow to an immense size; but either in the cold northern regions, or on the parched soils of India, they become so exceedingly diminutive, that in Ceylon there are horses to be found that do not exceed thirty inches in height; and in Iceland and Norway, where the climate is severe, continually striving with the destructive consequences of an icy temperature, and with a scarcity of nutriment, the horses are small, ill-shaped animals, covered with long coarse hair.

Individuals of the same specie are generally restricted to particular regions, in the centre of which life is maintained with comfort; but towards the margins, all the vital powers seem enfeebled: thus the two extremes approach each other. In its effects on the animal frame, extreme cold producing effects simi-

lar to those of excessive heat, Nature is constrained in her inclinations; becomes shrunk in her dimensions, and produces beings whose natural imperfections are alone requisite to explain the cause of their degeneracy.

The effect of climate and soil on the growth of animals is observed by Pallas. "Kamtschatka," he says, "like America, was in want of every domestic animal except the wolf-dog, till the Russians, of late years, introduced cows and horses: their progeny have grown to such an immense size, owing to the rich pasturage, that no one would suspect them to be descended from the ponies and runts of the Lina." The effect of climate and soil is also distinctly seen on the numerous breeds of sheep: they have all their distinguishing characteristics peculiar to their situation, and which peculiarity is, in great measure, lost by removing from their native soil. The following account, from Herodotus, confirms the positions already brought forward: "In Arabia," he says, "there are a species of sheep that are remarkable for an enormous length of tail, extending to three cubits, if not more, weighing from thirty to forty pounds. The shepherds of the country are skilful enough to make little carriages, upon which they secure their tails, in order to prevent their ulcerating, by rubbing on the ground." Pennant also takes notice of them, and says, that they are also to be found in Syria; and that this peculiarity is lost by crossing the breed, and also becomes diminished when they quit their native pastures.

Domestication has, perhaps, occasioned greater changes in the figure of animals than any other cause. When man directs and manages their sexual intercourse, by selecting individuals to breed from, he has produced numerous varieties. Let us consider, for a moment, the varieties of form and size which he may be said to have created by crossing the Arabian and other eastern horses with the indigenous breed of Great Britain; and the further crossing of them with each other.

> "We marry
> A gentle scion to the wildest stock;
> And make conceive a bark of baser kind
> By bud of nobler race. This is an art
> Which does mend nature,—change it rather; but
> The art itself is nature."

"The *first* is the race horse, proceeding directly from either an Arabian or Barb, with an English mare that has been bred by a similar cross. The *second* is the hunter, arising from a blood horse, and a half bred mare. The *third* is the result of a cross of the hunter with mares of a more common description;

these constitute coach horses. The *fourth* has no particular character, being the result of accidental crossing among the rest*."

These varieties may be very properly designated gifts of nature improved by art. The beneficent Creator has ordained that all creatures shall increase after their kind; but has still left much for man to do in regard to those which are more immediately subservient to his purposes. The same difference which is produced by domestication on animals is also observed in vegetables. "Wheat," says Buffon, "has been so altered by man, that it is now no where to be found in a natural state. It has a similarity to darnel, dog's-grass, and several other grasses; but still we know not to which of these plants it ought to be referred; and as it is annually renewed, is used as the common food of man, and more cultivated than any other vegetable, its nature, of course, has undergone the greatest alterations." Thus *art* divides the the palm with *Nature*, and the latter must be suffered to wear but half the diadem.

Every plant and animal adapted to the service of man is made susceptible of endless changes; and, as far as relates to his use, of almost endless improvements.

Accidental varieties oftentimes take place; and animals that have been produced by the freaks of Nature become capable of propagating their own deformity, until their characteristics have become constitutional and hereditary. The form and figure of horses have, probably, received fewer alterations from this source than any other, as the principal object in breeding horses is to obtain that peculiarity of form which is best capable of performing the different purposes for which he was intended; and as the form and proportion which we are most accustomed to are the most essential to bodily vigour and flexibility of movement, it never became the interest of any one to breed from any of those animals which are designated monstrosities, and carried about the country as objects of curiosity, such as horses with five legs, others with only three. Foals are oftentimes dropped very much deformed. We once saw a foal with an immense long back and crooked legs, very similar, in appearance, to the description given of the ancon† breed of sheep. In the former case the animal was

* R. Lawrence's Complete Farrier and British Sportsman.

† A new variety of sheep was, in the year 1791, produced in America. One of the ewes of a farmer, of the name of Seth Wright, produced a lamb of very singular appearances: these were, shortness of the limbs and length of body. The fore limbs were crooked, as to give them the appearance of an elbow; hence the name "ancon," from αγκων, was given to this kind of sheep. By the advice of his neighbours he reserved this singular ram for breeding. The first year, two lambs only were yearned in his likeness; in the following years a number more, distinguished by the same peculiarities, were produced.—*Philosophical Transactions.*

destroyed, whilst the breed of the latter was carefully preserved, not as an object of curiosity, but in consequence of their being less able to jump over fences, as they could neither run nor jump like other sheep. Hence proceeded a strong marked variety in this species of animals, before unknown in the world.

"Among mankind, individuals are occasionally produced with supernumerary members on the hands and feet, or on both; and from them, whether males or females, the organic peculiarity frequently passes to their children."

Another remarkable example of peculiarity of form, and of its hereditary transmission, is exemplified by the English family of porcupine men, who derived that name from the whole surface of their bodies, except their hands and feet, being covered by hard, dark-coloured excrescences, of a horny nature. Mr. Lawrence supposes, that if the porcupine family had been exiled from human society, and been obliged to take up their abode in some desert island, by matching with each other a race would have been produced more widely different from us, in external appearances, than the negro.

To accident also may be attributed the number of diminutive breeds of dogs. Buffon enumerates thirty fixed varieties; of these there are seventeen he ascribes to the influence of climate; the remaining thirteen he considers as accidental varieties.

> "Nature is various in her act,
> Prone to enlarge, yet studious to contract;
> Now forms her works too small, now too immense;
> And scorns the measure of our common sense."

Much difference of opinion appears to exist between authors relating to the production of hybrid animals; some supposing that many, originally distinct species, are capable of breeding together; and that their offspring are oftentimes prolific: hence the probable formation of new varieties.

That there are instances on record of hybrid animals being capable of procreation is very certain; but the instances are too few to justify the opinion that Pallas and others have entertained, that our breed of dogs, sheep, and even poultry, were factitious beings, not descended from any wild original, but from a mixture of nearly allied primitive species, whose offspring have possessed prolific powers. The dog, he supposes, proceeded from the jackall, the wolf, and the fox. Buffon supposes that mules more frequently produced in warm countries than in cold ones; "and there are some instances," he says, "of their producing even in our temperate climes." Herodotus mentions an instance of a mule producing a young one at the besieging of Babylon by Darius: this was regarded as a prodigy, which preceded the calamity of the taking of the city.

The vegetable and animal worlds present much similarity with respect to the generation of offspring; with this difference—that the extent to which mules are permitted to exist in the animal world must depend on their instinctive feelings; whilst an unrestrained and unlimited intercourse between plants is carried on by the incidental operation of winds and insects. Linnæus was of opinion that hybrids were abundantly formed: if then, *such* had proved capable of affording offspring, all traces of *genus* and species must surely long ago have been lost in oblivion, since every species of plant under such circumstances, must, of necessity, continue to assume variations of form, had not Nature, in order to preserve the original species entire, wisely stopped, in instances of deviation, the powers of propagation. Animals of the same species, in a state of freedom, are drawn by an immaterial tie, an instinctive tendency, to propagate for the continuation of their kind; and they appear to have an instinctive aversion to an union even with those that are most nearly allied, such as the horse and the ass, the dog and the wolf, the hare and the rabbit: but when by confinement, and by the assistance of stratagem, they are brought to copulate, we believe that their offspring seldom or never generate; but if they did (for we never have yet seen any thing like satisfactory evidence to prove it, two or three instances excepted,) we should consider it, with Juvenal, as a prodigy:

> Egregium sanctumque virum si cerno bimembri
> Hoc monstrum puero, vel miranti sub aratro
> Piscibus inventis et *fœtæ* comparo *mulæ*.

We must, therefore, continue to believe, notwithstanding there is so great a dissimilarity in the appearances of the different races of horses as to permit their dislocation into separate genera, that their indiscriminate and sexual intercourse, and consequent production of offspring capable of propagation, is alone sufficient to prove all the varieties to have descended from the same parent stem; the power of producing, by copulation, a succession of similar beings, being considered by naturalists as the surest criterion of determining the different species.

[To be continued.]

SPECIMENS OF FIVE MONTHS' VETERINARY STUDY.

The following facts we have extracted from the spirited letter of one of our esteemed Correspondents. We agree with him, that

"such gross displays of ignorance should be made known to the profession and the world, in order to convince them that some alteration at the Veterinary College is absolutely necessary." We are unwilling to give pain to, or injure even, those by whom our profession is thus disgraced; and, therefore, we have suppressed the name of our informant, and certain passages which would too plainly point out the individual alluded to.—Ed.

A young veterinarian, a very short time after he began business, was sent for to Mr. ——, a very sporting character, to see a horse which was lame before; and after seeing the animal trotted down the yard, he pronounced him lame in the wrong leg. Two days afterwards I was sent for, and found the lameness plain enough in the other leg.

In the course of this last winter he was requested to examine a horse with an enlargement upon the back of the hock. He pronounced it to be a curb; scarified the enlargement, and ordered it to be blistered. Before, however, the blister was applied, matter made its appearance from an abscess which had formed from a thorn; and in a few days the swelling disappeared.

About two months ago he was shown an old horse, belonging to a gentleman of the highest respectability near this town, which, from the history I have heard, has had the navicular disease for some years. He recommended the operation of unnerving. The horse was cast, and the operation upon both legs was supposed to have been performed; not in the usual way, by making a longitudinal incision immediately over the nerve, but by making an oblique incision, of about half an inch, upwards and outwards, out of which wound an inch of nerve was to have been cut, and which operation only lasted *two hours*. The horse got up still lame. He was ordered to be shod with leather soles, and turned into a loose box for three weeks: at the expiration of that time he was quite as lame as before the operation was performed. The gentleman thought this very singular, as he was led to believe the horse was to have been sound immediately, and, consequently, sent for Mr. Vet., in order to learn from him the reason the horse kept lame, when he replied, that the muscles of the arm had not yet come to their proper tone, but after a few days' exercise all would be right. Exercise was accordingly had recourse to for several days, but to no effect. At length the groom told his master he would not take him out of the stable any more, for he could not keep him upon his legs. The horse was then ordered to be shot.

It occurred to the groom, who is a very intelligent man, and who was present when the operation was performed, that the nerves had not been taken out; and, in order to ascertain that fact, he cut off both legs, and sent them to Mr. R. to be examined. Mr. R. and his Nephew made a very minute examination, and found the nerves perfectly in their situation, and that not one fibre had there been taken out or divided. Mr. R. requested my opinion as to the horse having been unnerved, which opinion was in unison with that of several medical men of this town; viz. that not one filament of the nerve had been touched. This, gentlemen, to you, may appear incredible, but such is the fact, and which I can prove by the most respectable evidence.

So much for the knowledge to be derived from a short residence at St. Pancras, and without any previous opportunity of being acquainted with the nature of the profession.

I shall refrain from making any observations upon these cases; and leave it to your judgment to say, whether such a man ought to bear the title of Veterinary Surgeon?

Most assuredly not; but such must be the consequence of education so absurdly and unjustifiably limited in its nature and its duration, and of examiners so utterly incompetent to their office. Of all the delusions practised on the gullibility of the public, this is one of the strangest. We shall have occasion to refer to these points once or twice in the present number.

The duration of the pupillage of the veterinary surgeon has been professedly prolonged. The period, however, if the whole of it be exacted, is yet inadequate; but the work of reformation has commenced, and it will and must proceed.—Ed.

ON SHOEING.

By Mr. J. C. Spooner, *of Blandford.*

Gentlemen,

I am induced to address you on the following subject by two reasons; first, from reading an observation recommended by Mr. W. Percivall, viz. "*I wish every one would only write what he knows, and as much as he knows;*" and, secondly, in the hope that other veterinarians, of larger practice, may be induced to favour the profession with the subject of their opinions and the result of their experience.

Mr. J. Turner has recommended a new system of shoeing; *new*, inasmuch as it has not been generally practised, and

never *purposely*, for those feet for which Mr. T. most strongly recommends it. The professed objects of this system seem to be, to admit the alternate expansion and contraction of the foot, to negative the evil consequences of the nails, and, in short, to allow the due performance of the natural functions of this all-important member. Its pretensions are certainly great, and its objects excellent, and as such it demands a fair trial, a full investigation, and an impartial statement, as to its merits and demerits. Although the principles of this system have been before the profession for upwards of nine months, yet no one seems to have offered their remarks on the subject, with the exception of Mr. Basing, who, in his earnest zeal to defend Mr. Bracy Clark, has condemned Mr. Turner's system in terms which would certainly materially cripple its rising reputation, if it did not altogether blast it in its bud, were his (Mr. Basing's) observations founded on trial, or were they any thing more than unfounded assertions. Mr. Turner is accused of plucking off the feathers of another, and arraying himself in this stolen plumage; or, to use a more professional metaphor, of *contracting* the credit of Mr. B. Clark, and *expanding* himself in this gentleman's *shoes;* but really I cannot comprehend the nature of the offence which has called forth so severe an anathema, and has proved Mr. Turner to be actuated by *meanness and quackery*. It cannot be for stating that the foot expands, for this fact has long been acknowledged by veterinarians, and was probably discovered ages ago, if we may judge from the circumstance of the expansion shoe having been in use in the days of Queen Elizabeth. But it must be either in discovering the chief error of shoeing, or else in providing a remedy. Now, in the written opinion of Mr. Clark, the *chief error* consists in fixing an *inflexible* ring of iron to the foot, and his remedy consequently has been the nailing on, if it may be so termed, a *flexible* shoe, one that expands to the foot. Whilst, in Mr. Turner's belief, the error consists in fettering equally both sides of the foot, and his proposed alteration is, in fixing the nails on one side only. Thus, though these gentlemen agree as to the physiological fact, they equally differ both as to the disease and remedy. A shoe that would admit the natural play of the foot has long been a desideratum in the profession; and I have heard many veterinarians speak in praise of the theoretical principles of Mr. Clark's shoe, who have yet condemned it on the practical grounds, that it tore away the crust, and was too complicated for common use. These objections do not apply to Mr. Turner's system, as it is quite as simple as the common shoe, and cannot tear the crust, for there are no nails on the *inner* quarter to resist the expansion of the foot. The only objection which I think

can be offered against it, is that of the shoe being more likely to be thrown than the common one, particularly in hunting over a deep country. This is the point on which the success of the side-nailing system depends, and to which the attention of practitioners should be directed. For my own part, I have tried it for the last seven months on about half a dozen horses, and during the last three months on a much larger scale, without witnessing but one instance of a shoe being thrown; and in this single exception it was completely worn out, having remained on the foot upwards of five weeks, without having been moved. These horses were all used in coach and post work, and whilst the roads were in an exceedingly bad state, from the breaking up of the frost on a chalky soil. Amongst others, I shod my own mare after this plan; and being willing to try its capability of endurance fully, I allowed the shoes to remain on until they were completely worn out; and the mare threw one of her hind shoes, which was nailed on in the common way, before either of her fore ones became loose: this mare I had frequently hunted.

It is not for me to say how long Mr. Turner's system will endure; but time will assuredly make mention whether it is merely

"To sport a bubble on the breath of fame,"

or whether its celebrity will be as durable as the metal of which the shoes are composed.

In conclusion, Gentlemen, allow me to express the pleasure I have received from the *increased* size of THE VETERINARIAN, and the *increased* value of its contents, which I trust has been fully equalled by its increased sale. In these matters, Gentlemen, may you go on increasing; and be assured, that while you continue in the path you at present occupy, you will not fail to be attended by an ample band of well-wishers, who, though they would not rank themselves under factious banners, are yet deeply anxious for those improvements calculated to raise the respectability of their profession; one of whom

I beg to subscribe,

Your obedient Servant,

W. C. SPOONER.

GROWTH OF HORSES.

By Mr. W. PERCIVALL.

THE present is a subject which seems but very slightly to have engaged attention; at the same time it certainly must be acknowledged to be one by no means altogether undeserving of notice. There are but comparatively few situations in which a

professional man has it in his power to collect any facts sufficiently numerous to come to any useful account; and too many of these few are disregarded: had this not but too manifestly been the case, I am sure I should not have presumed to offer to the veterinary world the scanty catalogue hereunto subjoined. Under present circumstances, I do so in the hope that it may lead to similar inquiries, and to more general and correct results.

I do not look upon it as any argument against such experiments, much less as any information (although, I believe, it is an answer under which the veterinarian is too apt to shelter himself against further inquiry), to say, that growth in horses, as in all other animals, must be extremely variable, and depend on a variety of circumstances, some of which are demonstrable, others not. I conceive it useful to ascertain the maximum and minimum of growth within certain periods, to particularize or rather characterize the subjects, and to detail the apparent circumstances, by which investigation alone, conducted on a large scale, can we hope to arrive at the desired conclusions.

The number of horses experimentalized on by me amounted, in all, only to twenty-one. I give the results more with a view of their turning out to be the fore-runner of some account on a more enlarged scale than of their proving in themselves worthy (from their paucity) of any great deal of attention. So far as they go, I can answer for their accuracy.

Between the 5th and 6th years, one horse had, in the 8th month, not grown at all; a second, in the 9th month, had grown $1\frac{3}{4}$ inches; a third, in the 11th, half an inch.

Between the 4th and 5th years, of twelve horses measured, the maximum of growth was found to be one inch in six months; the minimum nothing; making an average of one inch per annum.

Between the 3d and 4th years, of six horses measured, the average was found to be the same.

THE VETERINARIAN, MAY 1, 1830.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

ON the 22d ultimo, was held the Second Annual Meeting of Veterinary Practitioners. The weather on that and the preceding day was unpropitious, and prevented the presence of many from the suburbs and the country, who had expressed their intention

to attend; but when we mention that we observed among those who surrounded the festive board, Messrs. Boutal, Buckland (Dartford), Burrell, J. (jun.) and W. Field, W. Goodwin, Green, Henderson, Jumpson, Killick, King, sen. and jun. Langworthy, Mavor, Morgan, Moulden (Winchester), Palmer, J. and W. Percivall, Sewell (Brighton), Sewell (Water-lane), Slocombe, Smith, Stern, J. and T. Turner, and Youatt, it will be seen that the meeting was highly respectable, and that the apparently unanimous feeling of that meeting may be fairly considered to express the sentiments of the profession generally.—Mr. W. Percivall occupied the Chair.

The cloth being removed,

The Chairman gave, "THE KING,—the illustrious patron of the Veterinary College, and the warm and influential supporter of the turf. God send him a speedy return to health, and the long continuance and enjoyment of it!"

"THE DUKE OF CLARENCE, and the Royal Family."

"THE DUKE OF WELLINGTON; our celebrated warrior and distinguished premier: a man equally distinguished in the field and in the state."

"The Veterinary Profession." The Chairman, on giving this toast, observed, that he looked with heartfelt pleasure upon those assembled around him on such an occasion as the present; and that had more in number been present, that pleasure would have become increased. But he doubted not that those who were absent were prevented from attending from various causes—some by business, others by distance; and some there, perhaps, were, to whom a knowledge of what was passing had not arrived. He could not help, however, in particular lamenting the non-presence of those gentlemen who were looked upon by the public as our leading men in the profession: he was sorry to find that they did not set that value upon our company which we set upon theirs; at the same time, he would venture to say, that, were they present, they would, could have, no other feelings than those of gratification to witness, and partake in, what was here going on.

Some forty years ago, the profession was in a state of com-

parative barbarity; farriers were at that day the only practitioners, and but little knowledge, and less character, existed among them. Since then there had, most undoubtedly, been great improvement; and he trusted that we still were in a state of progressive amelioration. Great harm, however, had been done by the indiscriminate admission into the profession of persons who were little better than the old farriers; men void of education and respectability, and who could never reflect any credit upon the school at St. Pancras. The gates of that institution, through which candidates had to pass into the profession, had been thrown open so widely, that many had crowded through who ought to have been arrested at the portal. It is true that the pass had been, of late, contracted; that regulations had been framed to put some check to this; but all had not been done that ought to have been; and, in fact, much remained to be done.

At this advanced day of improvement the medical examiners still retained their places, little to their own credit, and less to our advantage; for they it is who are mainly in fault for the admission among us of so many men destitute of education and respectability.

So long as the profession is made up of such a heterogenous mass, so long is it impossible that its members can harmonize and amalgamate: it can only be when respectability and education shall be found to be universally diffused among us that any thing like professional harmony can exist. I will conclude, Gentlemen, with giving you, " The Veterinary Profession, and Professional Unanimity."

Mr. *Youatt*, being called upon by the President for a toast, said, that the Chairman had not given a flattering, but, he feared, a too accurate account of the present state of the veterinary profession; he would, however, beg leave to give the foster-mother of that profession—" The Veterinary College"—from which it had derived those supplies of mental food, which had not, indeed, nourished it to maturity, but which had, at least, enabled it to reach its present growth. This, he continued, is a toast which comes home to the business and bosom of every one

present. Gratitude and interest identify us with the existence and prosperity of that institution. If it stands high in public estimation, our respectability is proportionably increased. If, from misapprehension on the part of the public, or its own misconduct, it is censured or almost despised, we, to a painful extent, necessarily sink with it. Its true interests, as a national institution, are inseparably connected with ours; and we cannot be otherwise than sincerely attached to it. There are, however, different ways of shewing love. One person can see no fault in the object of his affection, and defends as excellencies its greatest inconsistencies. Another is fully alive to every excellence, but he is not insensible to those imperfections to which every individual and every institution is liable; and he has sufficient courage, or rather affection, to discharge the most painful, but paramount duty of love, namely, to endeavour to rectify those faults. The present company may be made up of both these descriptions of persons. The feeling in all is the same, but the manner of expressing it is different. Each party is equally sincere: the one must not be accused of servile and interested flattery, nor must the other be suspected of aversion or malignity. I confess that I belong to the latter class; for although I admire the excellence of the original design of the Veterinary College, and am sensible of, and grateful for the advantages which it is capable of bestowing, I see many faults which its infancy did not predict, and which its maturity ought not to possess. One thing, however, we must all rejoice in, that the improvement of this institution, although not satisfactory, has of late been evident; and more has been effected, in the way of improvement, within the last three years than in the preceding twenty. Veterinary societies have arisen within that period, and in their discussions enlarged and correct views have been given of the nature and treatment of many diseases already recognized, and of others most important in their character, but previously unsuspected. Veterinary journals have also been established, and their columns have embodied, as it were, the experience and practice of the whole profession; and, differing, in a variety of respects, from the theory and practice of the St. Pancras school.

The consequence of which has been, that this school is now compelled to keep some pace with the progress of science, or to appear to do so :—more diseases have been recognized ; the pharmacopeia has been increased, and theories of olden time have been modified, if not discarded. In the conducting of the school, the acquirement of anatomical knowledge, the only sure foundation of veterinary science, has been better secured by the appointment of an efficient demonstrator ; the lectures have been more regular, more numerous,—better studied, and more impressive ; and the residence of the pupil, although not required to the extent which the difficulty and the respectability of the art demand, has been materially lengthened. All this has been done within the last three years. Are there contradictory symptoms ? indications of a retrograde course ? It is in human nature that there should, for although the understanding may be convinced, a long course of error is not abandoned without some indications of chagrin, and some vain and pardonable attempts to limit or retard the submission which circumstances compel. The little mounds which disappointment or anger may have raised will soon be broken down or overflowed, and the stream of improvement will pursue its course, until the English Veterinary College shall cease to be the only public school in which the instruction of the surgeon who is to practice on all domestic animals is confined to one alone—the only one in which the pupil is compelled to depend for a considerable portion of his education on eleemosynary, charity-school instruction, which, however honourable to him who gratuitously bestows it, must be degrading to the recipient—the only one in which the time allotted for education is shorter than that which is devoted to preparation for the lowest mechanical art—the only one in which the practice of operations and the manipulations of the forge are systematically neglected—the only one in which liberal education and scientific acquirements are systematically discouraged—the only one in which the pupil and the practitioner are insultingly excluded from privileges granted to every one else—and the only one in which the important situation of examiner is occupied by those who are manifestly incompetent for it ; whose absurd and obstinate deten-

tion of it (I speak with consideration) has exposed them to the laugh and censure of their brethren, and can only be excused on the principle, that private friendship has rendered them insensible to public propriety. When this shall be effected, we shall drink with enthusiasm that which we do now with sincerity, "The Royal Veterinary College."

The Chairman next proposed "The health of Professor Coleman;" and regretted extremely that the Professor was not present. He should not enter into any speculations as to the cause of his absence. He himself wished the Professor well. He knew how highly gifted he was in natural abilities—they were above any eulogy of his; and he was quite certain that it would be found no easy task to find a man so qualified to replace him. He should conclude with wishing the Professor health, long life and prosperity.

To this followed, "Professor Dick, and the Veterinary School of Edinburgh." The Chairman said, that he had not the pleasure of Mr. Dick's personal acquaintance; and that he knew but little of his school; but he wished success and prosperity to both. The institution of such a school reflected high credit upon the Highland Society: it was a measure of great national importance; and he had no doubt that (if the country had not already) it would in a short time find it so.

He could not help remarking, on this occasion, how curious and inexplicable it seemed, that while Scotland was affording all this encouragement to the practice of our art, Ireland, which every body knew to be a country containing many more horses and of a more valuable description, there being a vast many hunters and some racers—while Scotland, he repeated, was doing this, Ireland had, recently, actually *abolished* their Veterinary School. The Dublin Society, who received annually from the British House of Commons a grant of three hundred pounds for the purpose of keeping up a Veterinary Professorship, had annihilated that appointment, and appropriated the money to some other purpose. This was a singular and curious fact; and one that seemed to call for some investigation. He would next give

"Mr. Youatt, and his Subsidiary School." Although, per-

haps, it could not be strictly called a *public* school, yet it was a school known well to the profession at large, and to no one known by whom it was not highly estimated. Indeed Mr. Youatt's kind and courteous manners endeared him to all who were favoured with his acquaintance; while his great professional acquirements rendered him the object of their admiration. He had laboured long and arduously in the field of veterinary science, and he deserved and fully possessed the approbation and esteem of his brethren. Mr. Youatt has principally engaged himself in the cultivation of a branch of our art which (discreditable as it was even to name it) was not, up to the present hour, taught at our Veterinary College; or, in fact, at any other place in this metropolis: and for his assiduity and perseverance in this neglected field of useful knowledge, the profession were bound in strong obligations to him; and he hoped that those members who were now present would signify that, in some measure, by most cordially drinking health and prosperity to him.

Mr. *Youatt* in returning thanks, observed, that he had so lately addressed the meeting, and the chairman had now been so "going it" with regard to him, that he really knew not what to say. He could only offer the excuse for the President which he had just made for other culprits—that private friendship (a friendship, however, which was *his* pride), had somewhat led him astray. Feeling, he continued, how unjust it was to the pupil and the country that the education of the young veterinary surgeon should be confined to one class of domestic animals, although, I acknowledge, the most important one; and having been, from peculiarity of practice for nearly twenty years, perhaps a little better prepared to embark in such an undertaking than some of my brethren, I ventured to attempt a course of instruction on the diseases of those animals which our veterinary school had strangely and inexcusably neglected. Of the result of this attempt it does not become me to speak, except that my pupils, pardoning imperfection of execution for the sake of evident and ardent zeal, yielded me the kindest and most gratifying attention, and have enabled me to say, that in each I have found an avowed and an attached friend. Now, however, age begin-

ning "to steal fire from the mind and vigour from the limb," I am anxiously waiting for the appearance of some younger man, of superior ability, and equal zeal, and, above all, of greater practice, (for practice without theory can alone avail here, and professed instruction not founded on personal observation would be a delusive mockery,) to whom I may resign the pleasing but arduous task: and then I shall retire with the consciousness of having first, in the English school, trodden this path of veterinary lore, and obtained for the pupil that additional instruction which his reputation and honour, and comfort in practice, and the honour of the veterinary school, and the interests of the country, demanded. Of this claim at least, my enemies, if I have them (and I am not conscious of having acted so as to deserve it), can never deprive me.

As to all the other fine things which the Chairman has said of me, I have a heart to feel the kindness of my friends, and sufficient sense highly and properly to estimate their attainments and their worth: but with regard to them, and the art which I have the honour to practise, my deeds, and not my professions, shall show the sincerity and depth of feeling by which my heart is penetrated.

The Chairman next proposed, "Professor Girard and the Foreign Veterinary Schools."

In proposing this toast, Gentlemen, I must beg of you to observe that Professor Girard has especial claims, as a foreign teacher and promoter of veterinary science, upon our notice. He has ever manifested towards the profession in this country the most liberal and amicable feelings: he has kept up with us a literary intercourse which only one other foreign professor has. He has taught with great success in his own school; and has published some excellent works, most of which are well known among ourselves. His son (lately deceased) was a young man of great promise: his death has occasioned a serious loss to veterinary science, and proved a source of deep and lasting despondency to the worthy Professor.

Any gentleman about to visit the French capital, and who felt inclined to view the veterinary school at Alfort, would find all,

and more than I have stated, verified, should he arm himself before his departure with a letter of introduction to M. Girard. Mr. John Field, now sitting on my left, if I mistake not, paid the Professor such a visit; and was most hospitably and kindly treated by him.

Mr. Goodwin was now called on for a toast, when he gave "Veterinary Reform," thus introducing it:—

After the toasts that have been drunk, perhaps this may not be an inappropriate period to suggest one that I am desirous of proposing; and although there are many among us whose opinions may differ from mine on the subject of it, yet I feel persuaded there are none who can regret more than I do the necessity I feel for toasting such a sentiment.

The grievances that the veterinary profession has so often and so justly complained of, are too numerous, even if this were a proper time to enter into them, for me to recapitulate; but so long as the place of examiners of veterinary students shall be usurped by medical men wholly ignorant of such an office, and so long as the College shall deem it expedient to shut their doors against the members of the profession to whom it owes its existence, I shall never fail to propose to you the toast which I have most at heart—"Veterinary Reform."

Mr. *Langworthy* gave, "The Army Veterinary Surgeons;" and remarked on the respectability of them as a body, and their ready acquiescence and aid in that which concerned the welfare of the profession. He knew some of them personally; and that knowledge had led him to form a highly favourable opinion of them.

Mr. *Henderson* felt that we were called on to notice "Our Friends from the Country," some of whom had come many miles to meet us on the present occasion; for which he thought they deserved, at least, some share of our regard. He would therefore propose their healths.

Mr. *J. Sewell*, in returning thanks, observed, that such an attendance always rendered him great pleasure; and he thought, thus far, he could answer for his country colleagues. For himself, he could say that he never meant to be absent when his professional brethren were thus assembled.

Mr. *Henderson* then gave "The Turf."

Mr. *Youatt* being called upon for another toast, thanked the Chairman for the opportunity afforded him of recanting an error, and expressing his gratitude. It was known to some that he had opposed these annual meetings. Although the advocate of reform, he was the friend of peace. He was afraid of some explosion of public feeling, which might too deeply wound those to whom he wished no ill, although they withheld our rights. Messrs. Goodwin and Langworthy were anxious to establish these meetings—nay, they declared their determination to persist, even if left alone in the attempt. The result had shown them to be right. Not one stormy gust had interrupted the enjoyment of this evening; not one discordant note had interrupted the harmony; and he now was convinced that assemblies like these would tend much to promote honourable and friendly feeling throughout the profession. He therefore begged to propose the health of those gentlemen with all the zeal of a new convert.

To Mr. Goodwin, if he was not mistaken, the profession was under other obligation. The mystery which hung over lamenesses in the fore foot had been considerably dispelled by Mr. Turner. As much light had been lately thrown on lamenesses of the hind leg by Mr. Goodwin. This would soon be felt by the profession, and duly acknowledged.

Mr. *Goodwin* thus replied. In behalf of my friend Langworthy and self, I rise to return thanks for the honour you have conferred upon us—but I must candidly confess that you owe rather to fortuitous circumstances than to our discernment, the pleasure that you may enjoy in these annual meetings: but for myself, I can assure you, and for Langworthy I know I can answer, that whenever it may be your pleasure to meet us on such occasions, you will ever find us present to return you our thanks for such an honour.

The *Chairman* now called upon those around him to drink the health of a gentleman, sitting very near him, who had in an especial manner contributed to the stock of veterinary knowledge. Prior to the elucidations of this gentleman, foot-lameness had been veiled in comparative obscurity: it is true, continued the

Chairman, that the horse was known to be lame in the foot; but, then, neither the seat nor the veritable nature of the cause of that lameness was understood or even at all known. For the development of this we are indebted to Mr. Turner, and to Mr. Turner alone. It is quite ridiculous to hear people talk of having known it before: although preparations might have existed in some museums, or dubious extracts could be made from works, yet was the merit due to him, and him alone, who first promulgated it, and called our attention to it; and that was Mr. J. Turner, and no other person. And therefore, he felt very great pleasure in proposing that gentleman's good health.

Mr. *Turner* regretted his inability to thank the Chairman and the meeting for the great honour conferred upon him, but would most cordially drink all their healths in return.

"The Medical Profession," next followed, on which the Chairman spoke nearly as follows:—Medical men cannot be viewed in any other light than a sort of professional brotherhood. The two sciences are sisters; the general principles of both are similar, although the practice in many cases is dissimilar. But, after all, they have both one common object in view—the preservation and continuance of life and health.

On the former occasions, such as the present, it has been usual to toast the health of our medical examiners; but really, gentlemen, I cannot but feel myself called on, after what has passed, to refuse them this notice. However much they may be entitled to our respect and esteem on other accounts, in their office as examiners they must, at this day, be fully persuaded that they are filling posts which they are little qualified for, and perhaps still less concerned about. Sir A. Cooper, who is the president of this examining committee, was once warmly commended and toasted by us on this occasion: but how can we do this *now*, since he has so lately told us that the examining committee is an *efficient* one; when it was he himself, on a former occasion, who agreed with us in the necessity there was for a change, and who took upon himself to recommend its adoption? I repeat, therefore, gentlemen, my regret on these accounts, that I cannot with any degree of consistency propose the toast in the usual form.

Mr. *Palmer*, being requested by the Chairman to favour the company with a toast, gave "The Progress of Veterinary Science."

The Chairman next gave the "Health of Mr. Sewell, the Assistant to Professor Coleman." Mr. Sewell, observed the Chairman, has been also of service to us in having contributed the operation of neurotomy. The practice has been both over-rated and under-rated: it appears now, however, to have found its settled value; and, in skilful and judicious hands, it is an operation of much importance to us.

Mr. *Goodwin* being again called on for a toast, said,—Having received so much gratification and instruction from the veterinary periodicals that have lately been established, I naturally feel desirous for their success. They have afforded us the means of widely communicating veterinary knowledge, and profiting by the experience of each other; and I trust, for their own sakes, as well as in gratitude to the proprietors of these periodicals, every member of the profession will avail himself of the opportunity of contributing his mite to the general stock of knowledge. I need not remind you that the periodicals are the property of spirited individuals who deserve highly of their profession, and to them is a merit due which reflects disgrace on our Professors, to whom the duty of recording the improvements in the profession properly belongs. I therefore propose "Success to the Veterinary Periodicals."

Mr. *Youatt* said, that when the worthy Chairman and himself were cogitating on the plan on which with most reputation and profit their humble journal might be conducted, they judged of the public by their own feelings. They were well assured that their brethren would never enlist under factious banners; nor patronize those who, under the pretext of reform, were seeking to destroy, or who were making the expression of their zeal a cloak for malignity and revenge. They therefore declared themselves to be, what they really were, ardently attached to the cause of veterinary science; ready and eager to defend the existence and true interests of the Veterinary College; but anxious to effect that reform which its own reputation and the respectability and prospe-

rity of the profession imperiously demanded. From this path they had not swerved to the right hand or the left, and in consequence of this they had gradually acquired a host of friends and supporters, more numerous and respectable than they had ever dared to expect: their gratitude to whom was deep, indelible. If "THE VETERINARIAN" was now become valuable and useful, their contributors had made it so. They earnestly entreated the continuance of that support, and they would endeavour to deserve it.

Mr. *Field* begged to trespass upon their patience for a few moments, while he prefaced a toast which would be drunk in bumpers. The gentleman to whom he alluded, he had had the honour of knowing from his boyish days; and as each year passed, his esteem for him, and admiration of him, had increased. We were indebted to him for the most important work we possessed on veterinary science, satisfactorily unfolding every principle on which our knowledge and treatment of disease must be founded. He knew that much of the time of that gentleman had since been devoted to the deep and successful study of his profession, and he acknowledged with gratitude how ready and anxious he had ever been to communicate to others the important results of his enquiry and experience. He knew, too, how much he had at heart the respectability of the profession, and how much, in his own uniform conduct and demeanour, he had upheld and promoted it. He had found him, and all who had been connected with him had found him, a cheerful and instructive companion, *a truly honourable man*, and *an ardent and faithful friend*. To-night we were under other obligations to him. He had presided over us with singular ability, and we were indebted to him for much of the pleasure of the evening. He considered this to be an important as well as a pleasant meeting. It would be the nucleus round which the veterinary profession would gradually be gathered; in which the feeling of the general body of practitioners would be expressed; and it would be the bond of union among all who had the improvement of the profession at heart. He begged leave to propose the health of "The Chairman" with three times three.

The Chairman, in returning thanks, avowed that he had on more than one occasion felt hesitation in his office, but not in the whole course of the evening such as he felt at the present crisis. Mr. Field had quite overwhelmed him with eulogy ; and he was quite and altogether at a loss to reply. The acknowledgments offered him for what little he had done himself for veterinary science, he felt very proud of : they would prove stirring and lasting stimuli for the performance of more ; and he hoped to prove, by his future conduct, that they had been so. He could say no more. He found he must conclude with ardent thanks for the very handsome and enthusiastic manner in which they had done him such recent honours.

The Chairman trusted the gentlemen would have no objection to drink the health of his old and worthy friend, "The Vice-chairman." Although his worthy coadjutor had not shown that alacrity in passing the bottle which he had on some former occasions, yet he could assure them that no man enjoyed his glass or his friend more. In a professional point of view, his friend stood above his humble commendation : every one around knew with what success he had practised in his Majesty's establishment; because he was of that liberal spirit that gave all he possessed professionally valuable to his associates in practice. He thought the least they could do in return was, to drink his health and long life to him, and especially as they saw in him the chairman of the next meeting.

Mr. *Goodwin*.—In rising again to return thanks for the kindness you have evinced towards me in drinking my health, and the honour you have conferred upon me, by electing me for your Chairman next year, however incompetent I may be for that office, I must acknowledge that I have not words to express to you what I feel on this occasion ; and I have to add, with such an example before me, although I feel the more my own incapacity, it shall be my endeavour to follow his steps ; and my utmost wish will be attained, if I should be so fortunate as to perform the duties of the office as next year's chairman with the same good feeling, and the same conviviality existing around me, that have been displayed this evening.

"The Stewards!" (by the Chairman), and thanks to them for their ample and excellent provisions on this occasion.

Mr. *Henderson* replied, that the harmony which prevailed in the present meeting, and the pleasure which every one seemed to feel, amply repaid him and his associates for the little trouble that the exercise of their office had given them. He trusted that the future meetings would be more numerous—if possible, more happy; and produce cordiality and good feeling through the whole profession.

Mr. *Langworthy* proposed "The health of Mr. Goodwin, sen., the father of veterinary reform," and who, in his retirement from active life, carried with him the esteem and good wishes of all who knew him.

Mr. *W. Goodwin* said, that infirm health prevented his father from attending the present meeting, but he was with us in spirit. He was thinking what we were now doing to promote that important cause, which he was the first to advocate. Although years had increased upon him, his good wishes towards his brethren had not cooled, and no man would more exult in our eventual triumph.

Mr. *Turner* proposed the health of another veteran in the profession, "Mr. Field, sen.," whose name as a practitioner was known, he thought, in the four quarters of the world.

Mr. *J. Field, jun.* returned thanks with much feeling. Whatever reputation his father had obtained as a practitioner was justly his due, for he identified himself with the interest of his employers, and was indefatigable in the discharge of his professional duty. If inflexible rectitude and liberal feeling, and, he might add, zeal for the respectability of the profession, entitled him to consideration, these, he was proud to say, his father possessed.

Mr. *Moulden* begged leave, although the veterinary periodicals had been given, to propose as a distinct toast, "The Editors of the Veterinarian." They had adopted a line of conduct so moderate and unexceptionable, that they had won the confidence of the majority of their brethren. Although they never assumed the tone of dictation, he was persuaded that they spoke,

and in a material degree led, the opinion of the grand body of veterinary practitioners. Their pages teemed with useful matter, and gave a new æra to veterinary science.

The Chairman replied that this expression or rather repetition of kind feeling towards them was deeply felt by himself and his coadjutor. Their object was, "The Profession." Their course had been direct, and undeviating; and they would continue to pursue that line of conduct, which could never, indeed, entitle them to dictate to their brethren, but would enable them, to a very important extent, to express the opinion and feeling of the profession at large.

Mr. *Goodwin* rose and said—The health of Mr. Youatt as a professor has been drank by us all, and there are none among us who do not feel anxious for his success in his veterinary school. But I trust, sir, you will allow me to give his health a second time, with three times three. Without his kind assistance, we probably should not have met here to-night; and you are all of you too well aware of the manifold obligations that we owe to that gentleman, to require any eulogium on my part to induce you to drink "Health and happiness to our worthy Secretary, Mr. Youatt."

Mr. *Turner*.— He has been a very post-horse to the profession.

Mr. *Youatt* replied, that, if he had been a post-horse, he had had wit enough to escape from the service of those, who would have visited him with many of the kicks and thumps which the poor post-horse endures; and in the service of the masters by whom he had lately been employed, he had been well-fed and kindly treated—they had given him that most delicious of all food, the consciousness of possessing their esteem and friendship. The mark was now pretty nearly out of his mouth, but he had still some work in him, and he would show it whenever the interests of the profession required it.

The evening was spent in perfect harmony, and the meeting did not break up until a very late hour. Such a meeting speaks sufficiently of itself as to the feeling of veterinary practitioners, and we will not make a single remark upon it.

We give with pleasure and gratitude too, the following extract from "*The Scotsman*" of the 21st ultimo:—

"*Edinburgh Veterinary School.*—This useful institution has just closed for the season. The examination of those students who were candidates for certificates took place in the Lecture Room. Clyde Street, on Thursday and Friday last, when seven young men, viz.—Charles Lauder, Edinburgh; William Frater, Douglas Mill, Lanarkshire; Wm. Shield, Arbirlot, Forfarshire; John Murray, Dunse, Berwickshire; John Fulton, Maybole, Ayrshire; Charles Reid, Strathardle, Perthshire; and Thomas Ritchie, Scotlandwell, Kinross-shire, were passed by the medical gentlemen who kindly conducted the examination. It is due to the students, and to Mr. Dick, the Lecturer, to notice the high satisfaction evinced by the examinators, and by the Directors of the Highland Society of Scotland, at the scientific and practical proficiency of the young men. The medical gentlemen were assisted on Thursday by Mr. Castley, the intelligent veterinary surgeon of the 12th Lancers, and by Mr. Henderson, veterinary surgeon, Edinburgh. The examination was also attended by Sir David Maxwell, Bart.; Principal Baird; Mr. Innes, of Stow; Mr. Graham Dalyell; Mr. Scott, of Sinton; Mr. Robertson Scott, of Benholm; Mr. Elliot, of Wolflie; Mr. Inglis, of Redhall; Mr. Clerk Rattray, &c.; by Mr. Fergusson of Woodhill, Chairman of the Highland Society's Committee on the Veterinary School; and by the Secretary and Depute Secretary of the Society, all of whom expressed their high gratification at the knowledge and acquirements of the students."

This is as it should be. The examination of the veterinary pupil is a public one. All attend who are interested in knowing that the Professor (for there is yet but one in this infant establishment) has done his duty. The examiners are the heads of the Edinburgh University. The Highland Society, under whose patronage the school of Mr. Dick is conducted, like the St. Pancras school at its first establishment, have not sufficient funds to offer proper salaries to professors of the auxiliary and subsidiary sciences. They can afford to pay but one teacher, a strictly veterinary one—his instructions, however, extending to the diseases of every domestic animal. In consequence of this, they demand from the pupil a fee, not like that at our school, which ought to cover every thing, but proportionate to the advantages which they offer. He is compelled to remain at this school two sessions (two years) at least, before he can present himself for examination, and ten guineas only are demanded.

Some of the most eminent of the medical teachers, however, have, with the liberality which has distinguished other gentlemen in the English metropolis, gratuitously admitted the veterinary pupils to their theatres. Then not only courtesy, but justice requires that these gentlemen shall be present at, and shall assist in, the examination of the pupils. They have a right to know that their kindness has not been ill-bestowed. We, therefore, find them "conducting" the examination—but how?—They could appreciate the improvement of the pupil in chemistry, general physiology, and the principles of medicine; but did they or could they know any thing of the horse or cattle? Did they disgrace themselves, and impose upon the public, by attempting that for which they were incompetent? No!—"the medical gentlemen were assisted"—by whom?—Mr. Dick? His name does not appear. We have, however, no objection to his presence, or his assisting in the examination: but he must not be alone; not that we should doubt him—we know his honourable feeling too well—but for the sake of propriety he must not. He is too much interested in the affair—his examination is, in fact, going forward when his pupils are examined;—his reputation is involved in theirs: and beside, from his daily intercourse with them, and knowing the strong and the weak points of each, he can easily, and without exciting suspicion, turn back the best, or pass the worst of them.

"The medical gentlemen were assisted by Mr. Castley, the intelligent veterinary surgeon of the 12th Lancers, and by Mr. Henderson of Edinburgh." The veterinary part of the examination was left to veterinary practitioners. This, we say, is as it should be; and we offer our cordial thanks and those of the profession to Mr. Dick for this act of justice done to his pupils and his brethren. It is a practical assertion of our claims which will not speedily be forgotten by us. Again we thank him, and in our social meetings we shall not fail to toast the man who has set our College so excellent an example. The directors of the Highland Society had the arrangement of the affair, and to them our gratitude is due; but the suggestion, so honourable to himself and gratifying to us, came, we are assured, from Mr. Dick.

What will *our* examiners say to this combination of medical and veterinary men? They refused to meet us degraded veterinarians. When they acceded to the appointment of a veterinary committee, they demanded that it should be a separate one. We were not worthy to mingle with them.—Pshaw!—The recollection of this may be painful to us, but the *disgrace* rests on those, who, by assumed punctilio and pride, would prevent that exposure of their ignorance as veterinary examiners which our admission among them would soon effect. Thanks to the professors of the northern university, who, in the persons of Messrs. Castley and Henderson, have fully vindicated our claims.

Now, Sir Astley, answer us,—Is your committee, composed of medical men,—competent at their own board, but utterly ignorant at ours, and, assisted by Messrs. Coleman and Sewell, having too much at stake in these examinations; examined in the person of every student; previously knowing too much of the candidates; necessarily prejudiced in favour of or against them; *is this the best board that can by possibility be constituted?* (we will not forget this until it is recanted, and that in the proper way)—or is it not incompetent, ineffective, partial, objectionable, compared with that of the Edinburgh school? Ask your medical friends; we do not mean your brother examiners, but they who are standing by, and can best judge of the business, and perhaps you would be startled to hear (we speak with perfect consideration) what men as eminent even as yourself, and that is affirming a great deal, do not scruple to say of your occupying a station for which you are unfit, and that to the exclusion of others who have natural claim to it, and an association with whom, whatever may have been the prejudice long diligently instilled into your mind, would not disgrace or annoy, but enable you to do justice to the pupil and the country. How easily might you redeem all, by establishing in our College (and a word from you would do it) an examination, at stated and not too frequent periods; public; impartial; and conducted by competent persons. Ask your own excellent heart,—Do we demand any thing wrong when we demand this? or can you blame us when we have sworn that we will not rest until we have obtained it?

Miscellanea.

HORSE CAUSE.

Tolner *v.* Rogers.

The *Attorney-General* (with whom were Mr. *Archbold* and Mr. *Steer*) stated the case for the plaintiff, and gave in evidence the following facts:—The plaintiff, an attorney, residing in the King's Road, Chelsea, had employed the defendant as his veterinary surgeon, and in the month of March in the last year, the latter was attending to a pony of the plaintiff's. On the 29th of that month the defendant, being at the plaintiff's house, suggested that the mare in question should be bled, telling the plaintiff that it was advisable to bleed horses in the spring and fall. The mare was nearly thorough-bred, and was at that time in high condition. The plaintiff, observing that she was in perfect health, objected to have her bled; but on going out of town on the following day, he left word with his groom, that, if the defendant should call in his absence, and should think it right to bleed the mare, he might do so. The defendant called on the 31st of March, and bled the mare, taking from her about six quarts. He desired the groom to put her on extra clothing, and to keep all the ventilators of the stables closed. The groom attended to these instructions, the mare being put into a three-stall stable, in which were two ponies and a horse. A few hours after the bleeding, the groom perceived a dulness in the mare, which continued during the next day, and she ate but little. The defendant sent a ball, which was given to her, but for two or three days successively she continued getting worse, there being a great heaving at the flank, with shortness of breath. On the 3d of April, the defendant not having come in the mean time, the groom went to him, and requested his attendance. On his coming and looking at the mare, he said she had caught cold. He attended her regularly twice a-day, with the exception of one day, from the 3d to the 9th of April, and administered medicine. On the 9th, the plaintiff's groom (the plaintiff being still absent in the country) suggested the propriety of taking a little blood from her. The defendant said she was too weak to bear it, and expressed his opinion that she would not recover. The mare, at that time was labouring under symptoms of inflammation; and the defendant asked the groom whether he had told his mistress that too much blood had been taken from her? The groom replied that he had. On the plaintiff's return home, Mr. Jumpson, a veterinary surgeon, of Judd Street, Chelsea, was sent for,

on the night of the 9th April, to meet the defendant, who, however, did not attend at the time appointed, but came about one o'clock in the morning, after Mr. Jumpson had bled the mare, and removed her into a detached box in the stables. The mare died on the morning of the 10th.

Two riding-masters, who had seen her a few days before the bleeding on the 31st of March, described her as a fine animal, in perfect health and spirits at that time. One of them said that such a mare would probably be worth about 100 guineas: the other thought she was worth 100 or 120 guineas.

Mr. *Jumpson* said, that, when he examined the mare on the 9th of April, he found her labouring under inflammation of the lungs, and that the stables where she was kept were very hot, and full of foul air for want of ventilation. The defendant, when he came at one o'clock in the morning, expressed his surprise at her being removed to a detached part of the stables, and told witness that as he had taken her under his care, he (the defendant) would have nothing more to do with her. She was opened after death, and witness was of opinion that the cause of her death was an over-congestion of blood in the lungs. The intestines were slightly inflamed from the excessive purging. There was inflammation also on the inner membrane of the windpipe. Witness was of opinion that for inflammation of the lungs purgative medicines were improper. He should wish to excite nausea, but not to purge.

Mr. *Coleman* concurred with Mr. Jumpson in opinion that the death had been caused by a congestion of blood in the lungs. Being asked his opinion as to bleeding horses in the spring and fall, he was for "letting well alone." He would not bleed unless there was some disease, or change of diet, or of temperature, to render it necessary. It was, however, a common practice to take blood in the spring, and sometimes in the autumn. Six quarts was not a very extraordinary quantity to take from a horse. In his opinion all stables should be ventilated. The want of ventilation was the frequent cause of disease, and of this particular disease, which was one of the most sudden as well as the most fatal. The want of cleanliness, and a high temperature, were frequent causes of the disease, though over-exertion was a frequent and more violent cause. For such a disease he should wish to create nausea, and to lower the action of the heart, so as to prevent so much blood flowing into the lungs. Mild purgatives were proper for that purpose.

On his cross-examination the witness stated, that inflammation of the lungs would sometimes exist without its being traceable to any particular cause. More horses died from inflamma-

tion of the lungs than from almost all the other diseases put together. He had long known the defendant, who had been regularly educated as a veterinary surgeon, and was a member of the College. Witness considered him an intelligent man, and skilful in his profession.

Mr. *Campbell* addressed the jury for the defendant, and said that the evidence of Mr. Coleman had put the plaintiff out of court. He contended that there had been no want of skill or attention on the part of the defendant, who, he said, would be ruined in his profession had the plaintiff been able to establish the case against him.

Lord Tenterden, in summing up the evidence, said, he thought that the death could hardly be attributed to the bleeding. The Jury would, however, consider whether there had been any want of care or skill in the defendant's mode of treatment of the animal, and particularly in ordering the stables to be kept closed and no air admitted. If they thought there had been such want of care or skill, they would find for the plaintiff; if not, for the defendant.

The Jury, after retiring for a short time, found for the defendant.

We congratulate Mr. Rogers on the result of this trial; he would have been unjust to himself as well as his professional brethren, had he compromised such an affair. He bleeds a mare because he thought that "it was advisable to bleed horses in the spring and fall," to obviate, probably, that subacute febrile action which is frequently observed during the moulting season. We acknowledge that we are not accustomed to do so, for we find that a little physic, or alterative medicine, with a few mashes, will much more readily remove the languor which occasionally hangs about the animal; and, where we can, we do as Mr. Coleman very judiciously recommends, "let well alone."

A few hours, however, after the bleeding, the mare was dull, and refused her food and heaved at the flanks, and, as the plaintiff affirmed, inflammation of the lungs came on, and she died: and then some groom or farrier (it could not have been one of a higher grade—Mr. Jumpson, in the report we have given, does not say so) persuades the owner that the bleeding was the cause of the inflammation—that the fire was kindled by taking away

the fuel; and, Mr. Tolner—no horseman—believes this, and commences his action. Common sense, we should have thought, would have told him, that if the bleeding had any effect, it was to mitigate the intensity of the inflammation that followed.

Inflamed lungs supervened, and *then* Mr. Rogers ordered the mare, and the stable, in which were two other horses, to be kept close and warm. That the mare died from the consequence of inflammation, "over-congestion of blood in the lungs," is probable. We have the united testimony of Mr. Coleman and Mr. Jumpson to prove it; but *when* did the inflammation commence? The plaintiff's adviser had not wit enough to attend to this important point. Most certainly not, when, after the bleeding, she was ordered to be kept warm. After inflammation, pure inflammation of the lungs had existed ten days, the lungs would have been *gangrenous*. *Congestion* is the consequence of recent inflammation rapidly running its course. It was not attempted to be proved, and what indeed could not have been proved, that inflammation of the lungs was the primary disease.

Suppose Mr. Rogers fancied something like catarrh coming on, would he do wrong in clothing warmly? or would he be always wrong in keeping the stable warm? Mr. Rogers intended to physic the mare: he did physic her. Mr. Jumpson speaks of the "excessive purging." Is it wrong practice to keep the stable warm while a horse is under physic, and especially when super-purgation occurs? Mr. Jumpson says that "the intestines were slightly inflamed." *Slight* inflammation does not usually follow "*excessive* purging." Was it not a complicated case from the beginning? and might not inflammation of the intestines succeed to catarrh or bronchitis, and inflammation of the lungs to that of the intestines? Mr. Rogers, then, might not be guilty of any mal-practice; or, at the worst, might not have been more mistaken in the opinion which he formed of the case, and the course which he pursued, than the most careful of us must occasionally be, when our patients can neither tell us the seat nor the degree of pain.

We are not advocating the cause of Mr. Rogers, who has not

treated us quite well in this affair, (he knows to what we refer), but we are considering how it bears on the interest of the profession generally. This is an action which should not have been brought; and Mr. Rogers deserves our thanks for defending it. We have enough to contend with from the degraded rank which we occupy in society, and from the disadvantages under which we labour from our neglected education, and from the character of our patients, who are dumb--dumb—without having our occasional errors of practice (and we are not sure that there was an error here) brought against us to the ruin of our reputation and our little fortune. Nothing but gross inattention to our patients, and blunders manifestly auguring want of skill, such as the nerve operation of the worthy recorded in the present number, are fair subjects of action. The most skilful human practitioner has enough to puzzle him, and to lead him astray at times. The practitioner on the dumb quadruped, and none of whose blunders are buried undetected, fares worse. The subject of professional responsibility, however, is one too interesting and too complicated to be thus summarily dismissed. We shall return to it shortly.

VETERINARY MEDICAL SOCIETY.

FEBRUARY 25, 1830.

Mr. W. PERCIVALL *in the Chair.*

THE discussion of Mr. W. Goodwin's paper on the Navicular Disease was resumed.

Mr. *J. Turner* said, that Mr. Percivall, at the last meeting, had demanded proof of the elevation of the coffin-bone within the hoof. He had already produced one specimen, in which it was considerably raised. He now offered to the consideration of the Society two feet belonging to the same horse. In the sound foot, the coffin-bone was half an inch below the upper edge of the hoof; in the other, it was on a level with it. It seemed to prove both the ascent and absorption of the coffin-bone.

Mr. *W. Percivall* observed, that the apparent ascent depended on altered position, and not on displacement.

Mr. *J. Turner* replied, that all he contended for was, that a portion of the bone was elevated above its natural place. He did not believe there was any displacement; but if, in the healthy specimen, there is hoof for half an inch above the apex of the coffin-bone, and in the diseased specimen the bone and the hoof are on a level, there must be alteration of position. He then produced another specimen, to show that contraction from below upward may exist to a considerable degree, and the navicular joint be uninjured.

Mr. *W. Percivall.*—This is a case of lateral contraction, which cannot exist without a concave sole; and the consequence of that will be, elevation of the coffin-bone.

Mr. *J. Turner.*—The horse was sound, because there was no navicular lameness. He presented another specimen, which had a fair appearance to the eye, but, when pared out, the sole would have the form of a basin. The coffin-bone was elevated above the crust, and was much diseased.

Mr. *W. Percivall* wished that Mr. Turner had brought forward a lateral section of a foot of this kind; it would have given a more accurate idea of the position of the coffin-bone, and the degree of absorption. Does not Mr. Turner meet with many cases of navicular disease with the frog sound and prominent? and may not the disease then arise from bruise of the frog?

Mr. *J. Turner* had seen navicular disease with prominent frog, and thought it might occasionally arise from bruise of the frog.

Mr. *W. Percivall* thought it a case of frequent occurrence.

Mr. *J. Turner* believed that, in the great majority of cases, the disease arose from something wrong in the foot. He could even, at first, generally see an alteration of form in the foot. There was never the prominent, bold appearance of the perfect foot.

Mr. *W. Percivall* thought that many of the symptoms described by Mr. James Turner would apply to other diseases of the foot; indeed, his best symptom seemed to be the absence of every other apparent cause of lameness. Could Mr. Turner always distinguish between the navicular disease and shoulder lameness?

Mr. *J. Turner* thought that the walk and action would always indicate shoulder lameness; he should, however, avail himself of every circumstance in his power to guide his judgment, and run the horse on different surfaces. A mistake could hardly be made in shoulder lameness, and he was not singular in the confidence with which he expressed this opinion.

Mr. *W. Percivall* had seen many a one deceived here. He would beg leave to advert to the name of the disease; he thought it not a proper one, and open to animadversion. The word joint would be introduced with advantage. *Navicular* lameness would mean lameness in the shape of a ship, which was absurd: navicular joint lameness would be intelligible and appropriate.

Mr. *J. Turner* thought the introduction of the word joint would be an important improvement. The joint was the actual seat of disease.

Mr. *T. Turner* had frequently observed, after copious bloodletting from the foot, a sudden and marked improvement. The horse immediately very freely flexed his limb, and threw his weight on the lame foot: it was almost as remarkable as the effect of neurotomy. This was particularly the case in the early stage of the disease; and, when he has seen this, he has augured favourably as to the result of the case, and could not bring himself to believe that a little gentle walking on a soft surface, to force down the bone, could be so prejudicial as had been imagined, especially when the foot had been softened with mucilage.

Mr. *J. Turner* added, that this was an effect peculiar to profuse bloodletting; he had never seen it where only a quart or two were taken.

Mr. *W. Percivall* imagined that no one could deny the propriety of a very copious local bleeding, and the advantage which would result from it: but there were other points of considerable consequence to be discussed. What would Mr. Turner do, when called in to a chronic case of navicular joint lameness?

Mr. *J. Turner*.—I would not deceive my employer with any hope of cure, but I could afford considerable relief. In the worst case, and that of longest continuance, even in an ulcerated state of the joint, I should repeat the bleeding.

Mr. *W. Percivall*.—Would not a smaller quantity (as two quarts), taken daily, have more effect than Mr. Turner's profuse and less frequent bleedings?

Mr. *J. Turner* thought that the abatement of inflammation depended chiefly on the lessening of the action of the heart by a copious abstraction of blood. He would push the bleeding to its full extent, and make the foot as soft as he could with emollient poultices. If the horse is to be made up as soon as possible for temporary use or sale, he would not cut away that portion of the crust which it would take two or three months to replace, but would remove the whole of the bar, and as much of the quarter as would, in five or six weeks, grow down again. He would put

on a shoe somewhat wider in the web, to afford additional protection; and he would take away a portion of the toe, but not sufficient for any considerable time to blemish.

If he attacked the disease radically, he would take away the quarter to the full extent of the specimens he had exhibited. He would pursue the bleeding to its fullest extent; and when the horse was in the slightest degree capable of work, he would afford all possible protection by a bar-shoe, the frog resting on the shoe, and the inside quarter eased off.

Mr. *W. Percivall.*—Mr. Turner stated, in speaking of the progress of the disease, that there was first inflammation of the synovial membrane, followed by a diminished secretion, or suppression of synovia.

Mr. *J. Turner.*—I certainly have not spoken of an increased secretion of synovia, nor have I spoken of the suppression of that secretion; for it is not suppressed, even in cases of many years' standing.

Mr. *W. Percivall.*—Mr. Goodwin states, that there is an increased secretion. Mr. Turner likewise asserted, that there was another consequence of the disease, namely, adhesion between the bone and the tendon by the interposition of lymph. He would think this a favourable termination of the disease.

Mr. *J. Turner.*—But you would have a very lame horse.

Mr. *W. Percivall.*—Possibly; but the animal will be more effective than when the part is in a state of ulceration.

Mr. *J. Turner.*—Nature is perpetually trying to accomplish this union. The bone, however, is often carious; and, once becoming so, will remain carious as long as the animal lives. There will always be a cavity, perhaps, large enough for the introduction of a pea.

Mr. *Langworthy.*—Is there no mode of treatment generally successful in the incipient stage of the disease?

Mr. *J. Turner.*—The veterinary surgeon has, in the early stage of navicular joint lameness, as much controul over it, as he has over any disease to which the foot is subject.

Mr. *Langworthy.*—By what symptoms are we to be guided, in case of the recovery of the horse, in determining that it was a navicular disease?

Mr. *J. Turner* could only refer to his papers, in which the symptoms had been fully developed.

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ANATOMY OF THE HORSE.

[Continued from page 245.]

DIAPHRAGMATIC REGION.

CONTAINING only the single muscle from which it takes its name.

DIAPHRAGMA.

Situation.—It forms the fleshy and tendinous partition dividing the cavity of the chest from that of the abdomen.

Form.—Broad, circular; flattened from before backwards; anterior surface, convex; posterior, concave: bifurcate, superiorly; having two elongations or appendices extended backwards, and terminating in pointed extremities.

Division.—The broad circular portion is sometimes distinguished as the *greater* muscle; while the *appendices* or *crura* are said to form the *lesser.*

Attachment.—The greater muscle is attached by fleshy digitations to the cartilages of the eighth pair of ribs, and to those of all the posterior ribs, with the exception of the two last; also to the ensiform cartilage. Of the appendices, the right, the longer one, is attached to the bodies of all the lumbar vertebræ; the left, or shorter one, has separate tendinous attachments to the first and second of these vertebræ. The two appendices form a union and decussation opposite to the seventeenth dorsal vertebra; and afterwards, again bifurcate. The greater and lesser muscles form a conjunction through the medium of the cordiform tendon.

Relations.—The anterior or convex surface is covered by the pleura; is opposed to the bases of the lungs, and in part to the sides of the chest; and is connected, next to the spine, with the superior mediastinum and its important contents; next to the sternum, with the pericardium and inferior mediastinum. The posterior or concave surface is covered by peritoneum; and is, together with the crura, connected, superiorly, with the psoæ

muscles and quadratus lumborum; infero-posteriorly, with the kidneys, renal capsules, pancreas and duodenum; on the right side, with the liver; on the left, with the stomach and spleen.

Direction.—The fibres of the larger muscle all converge in radii, and run to the condiform tendon as to a common centre: those of the appendices run longitudinally.

Structure.—It is made up of fleshy and tendinous parts. The fleshy parts are those forming the circumferent portions of the large muscle, and the principal bulk of the crura or appendices. The tendinous parts consist in a thin circular expansion occupying the middle of the larger muscle, and uniting that with the lesser. Through the muscle are to be seen three remarkable openings: a superior one, in the interspace between the crura, for the aorta; one, a little lower, formed by the decussation of the crura for the œsophagus; and a third, or lower one, perforating the cordiform tendon, for the vena cava posterior.

Action.—The diaphragm is the principal if not the sole agent in inspiration: it acts in opposition to the abdominal muscles, which are the chief expiratory powers. By the contraction of its radiated fibres, aided by that of the crura, the cordiform tendon is transformed to a plane surface, and the dimensions of the chest from before backwards thereby considerably augmented. Its capacity, however, is again contracted in consequence of the muscle resuming its concavo-convex form, from the reaction of the abdominal muscles and consequent pressure against it of the abdominal viscera. There are occasions, however, in which these opponent respiratory agents co-operate to one and the same effect: such is the case in the expulsion of urinary and fæcal matters; and also in the act of parturition.

MUSCLES OF THE ABDOMEN.

LUMBAR REGION.

The muscles included within this region constitute the fleshy parts of the loins. They are six pairs in number, altogether; and two of them are placed externally; the other four, internally.

SEMI-SPINALIS LUMBORUM.

Consisting of regular layers of fleshy fibres, similarly distributed in the loins to what those of the semi-spinalis dorsi are in the back; and continued along the sacrum. They are covered by thin tendinous faschiæ extended from transverse to spinous process.

INTER-TRANSVERSALES LUMBORUM.

Small muscular slips running from the sharp border of one transverse process to that of the next to it; and included between two strong and tense inter-transverse ligaments.

Action.—To approximate those processes.

SACRO-LUMBALIS.—*Sacro-costalis.*

Situation.—Deep seated, in the loins: above the psoæ.

Form.—Flat, thin; border, semicular.

Attachment.—Posteriorly, to the transverse process of the last lumbar vertebra, and to the body of the sacrum; anteriorly, to the other transverse processes of the loins; and to the last rib.

Relations.—Superiorly, it is opposed to the transverse processes of the loins; inferiorly, to the psoas magnus.

Structure.—A strong and flattened tendon attaches it to the sacrum, which curves forwards, but disappears before it reaches the last rib: the other parts consist of pale disgregated fibres, intermixed with thin, curvilinear slips of tendon.

Action.—To co-operate with the inter-transversales lumborum in approaching the transverse processes; and, at the same time, to draw back and render fixed the last rib.

PSOAS MAGNUS.—*Sub-lumbo-trochantineus.*

Situation.—Postero-lateral parts of the spine; and superior part of the inlet of the pelvis.

Form.—Elongated; fusiform; thicker in the middle than at the extremities; anterior extremity, flattened, extended and pointed.

Attachment.—Anteriorly, to the inner surfaces of the two last ribs, close to their vertebral articulations; to the body and transverse process of the last dorsal vertebra, and to the same of all the lumbar vertebræ: posteriorly, to the small internal trochanter of the os femoris.

Relations.—Anteriorly and externally, with the diaphragm; posteriorly and externally, with the iliacus; inferiorly, with the kidney and peritoneum; on the inner side, with the psoas magnus and lumbar vertebræ; behind, with the quadratus lumborum.

Structure.—Anterior attachments, fleshy. The posterior end is included within an aponeurosis, which itself terminates in a flat tendon, into which are concentrated and inserted the fibres of the iliacus.

Action.—To bend the haunch upon the pelvis by drawing it forward, as in progression. Supposing it to act while the hind

quarters remain stationary and fixed points, it will produce that appearance, by flexing the spine, called "roach-back," or "sticking up the back."

ILIACUS.—*Ileo-trochantineus.*

Situation.—Occupying the iliac fossa, and thence extended along the internal part of the haunch.

Form.—Thick; triangular; base turned forwards.

Attachment.—Anteriorly and superiorly, to that part of the crista of the ileum which has no bearing upon the sacrum; and to the anterior spinous process, venter, and inferior edge of the bone: posteriorly and inferiorly, to the small internal trochanter, along with the psoas magnus.

Relations.—Inferiorly, with the crural arch; superiorly, with the psoas magnus and sartorius; on the outer side, with the iliac fossa, tensor vaginæ, rectus, and ileo-femoral articulation; on the inner, with the iliac faschia and peritoneum. The anterior crural nerve and profunda artery and vein cross its lower termination.

Structure.—Enveloped entirely internally, and in part externally, by a faschia derived from the crural arch. It is altogether fleshy excepting its lower part, which joins in inseparable union with the tendon of the psoas magnus.

Action.—To flex or advance the haunch.

PSOAS PARVUS.—*Sub-lumbo-pubialis.*

Situation.—Along the inner side of the preceding muscle.

Figure.—Elongated, slender, fusiform.

Attachment.—Anteriorly, to the heads of the 16th, 17th, and 18th ribs; to the bodies of the three posterior dorsal, and to those of all the lumbar vertebræ; posteriorly, to the brim of the pelvis, midway between the anterior spine and the symphysis pubis.

Relations.—Anteriorly, with the diaphragm and the renal vessels; on the inner side, with the crus of the diaphragm, anterior aorta, and vena cava, and the iliac vessels; on the outer side, with the iliacus.

Direction.—Longitudinal.

Structure.—Anterior attachments, fleshy; with tendinous chords intermixed: posterior half, a long flattened tendon, which arises out of the middle of the fleshy parts and broadens in its passage backwards.

Action.—To draw the pelvis forwards. When one acts by itself, the same part will be inclined to one side. Or, the pelvis being made a fixture, it will have effect in arching or flexing the spine.

[To be continued.]

Communications and Cases.

Ars veterinaria post medicinam secunda est.—VEGETIUS.

OF THE EDINBURGH VETERINARY SCHOOL, &c.

A Letter addressed to Mr. J. TURNER, *by Mr.* J. CASTLEY.

On the march for Ireland, 20th April, 1830.

"Nothing extenuate, nor set down aught in malice."

My dear Sir,

IN the last number of THE VETERINARIAN (that for April) there ought to have appeared a paper of mine on the subject of Soundness: it is in the form of a letter to Mr. Percivall, and in reply to one, you will have seen, he addressed to me in the same periodical, the month preceding. Mine was written, perhaps, rather in a hurry, in order to be in time for the first publication; and, being upon a disputed point, it ought, I conceive, in all fairness, to have met with immediate attention, particularly as I made that a matter of request. Finding, however, there was no notice whatever taken of this communication in the April number of THE VETERINARIAN, I sent it, on leaving Edinburgh the other day, to the editor of the Hippiatrist, as my old friend Cherry has thought proper to call his journal, begging him to give it a place there; and I hope he will comply with my request.

But no matter when or how the paper alluded to sees the light, if the general view I have there taken of the question be *sound;* and if it be in accordance with your ideas, I shall hope to be supported not only by you, but by many other practical men; for it appears to me to be a point, of all others, upon which it is most desirable we should come to some better understanding and agreement. If, however, I find no one inclined to come forward and back me in the position I have taken, I shall begin to think "'tis a hopeless case"—that soundness is something not to be defined; or that we are a sad *disjointed set*, incapable of any united exertion. At the same time I shall have the satisfaction of thinking I have done my duty; and may at least claim the merit of having endeavoured to make the subject somewhat more plain, simple, and intelligible.

Had I the advantage of a personal acquaintance with Mr. Youatt, I should, perhaps, have addressed this letter to him, as I

wished to tell him I had prepared "another bantling" for publication; but seeing the columns of the *increasing Journal* overflowing with matter, and having, as I said before, some reason to be dissatisfied with my letter to Mr. Percivall being shut out of the April number, I have thought it high time to "hold hard" and "to pull up;" nor do I promise to contribute more until this matter be settled*.

Lately, indeed, I may have been writing more than enough. Some of my friends hint they think me a little tainted with the *cacoëthes scribendi;* and there may be something, perhaps, in the air of Edinburgh infectious, or favourable to the production of such a complaint: for although Scotland may be justly called a "frigid clime," yet to live in the neighbourhood of *Arthur's seat* is to be in the land of inspiration. The warm-hearted hospitality of Ireland may, perhaps, cure this thriftless phantasy, and drive away all such "serious intentions."

Before quitting Scotland, however, I wish to say something of the Edinburgh Veterinary School. Mr. Dick certainly deserves great credit for having established, in the northern capital, a course of Lectures—in short, a school where he teaches the anatomy and diseases not only of the horse and the ox, but the rest of the inferior animals most useful to man. And he has the more merit in this undertaking, as, with the exception of the Highland Society, he appears to have received but little as-

* The "settlement of this matter" is easy enough. We had devoted eight pages of the "*increasing Journal*" for April to our friend Mr. Castley's very interesting paper on "Acute Inflammation of the Feet." It was actually printed when his second communication arrived. Had that likewise been inserted, we must have neglected some other friends, whose contributions had precedence in point of time, and of whose composition nothing had appeared in the earlier part of the number. In doing this we should have given *just cause* of offence. If we had inserted two papers from Mr. Castley, and none from others, we should have found it difficult to exonerate ourselves from the appearance of partiality, and even the reality of it. As to the accusation of taking "no notice whatever of Mr. Castley's communication," if he will kindly observe the quantity of matter which is *crammed* into the four or five last pages of the April number, he will see that we had only room for the short sentence of "Notices to Correspondents in our next." In this he was included; and with this the choicest correspondents to every journal must occasionally be content. We duly estimate, and so do our brethren, the communications of Mr. Castley. They have lately materially contributed to *increase* not only the bulk but the value of our *Journal;* and we think we can answer for it, that the good sense and good feeling of our friend will induce him no longer to "hold hard." The office of editor is not always an enviable one: he has a great many to please, and he finds it very difficult to please all; but while we are guided by two principles—gratitude to our contributors, and duty to the profession and the public—we are convinced that we shall not give *permanent* offence to any one.—EDIT.

sistance from either the *great or the learned* of this "first city in the world for arts"—this modern Athens—this great emporium, as it has been hitherto called, of *medical* science. We are apt, my dear sir, to entertain a somewhat too elevated notion of the importance of our profession; and because Vegetius has said "Ars veterinaria post medicinam secunda est," to flatter ourselves, that in this enlightened age, the nineteenth century, it ought to rank rather high. But whatever consideration we may think our art entitled to, it is quite evident from what we see here, and it is humiliating to observe, that it not only falls far short of the estimate of many who have embarked in it, but that it absolutely seems to sink beneath the dignity of collegiate science. There is no room for Mr. Dick's chair within the walls of the great, the proud University of Edinburgh. The elder sister appears to disown the relationship, or, secretly ashamed of the Cinderella, scarcely acknowledges the connexion.

Here, then, even at the very head-quarters of medicine, veterinary surgery may be said to stand entirely upon its own bottom; and it has to be tried by the measure of its own utility. It has not been taken in tow by the elder science—it has not experienced the fostering care of academical honours—it lacks the polish and advantage of a gown—it presents rather a rough exterior, but still it seems to thrive. One could wish to see Mr. Dick's lecture-room look somewhat less like the appendage of a forge; but then he never has to lecture to "empty benches." He has a very considerable and yearly increasing class. The Edinburgh school is entirely of his own creation; and I am happy to see that he is likely to reap the fruits of his great perseverance, his zeal, and his talents. In the session just past there were young men not only from many parts of Scotland and the borders, but also from the northern districts of England, and even Yorkshire, attending his course. Veterinary medicine may, therefore, be said, notwithstanding all the disadvantages it has laboured under, to have taken root in the northern metropolis; and I know of nothing that is likely to check its growth, except, perhaps, the introduction and general use of *steam carriages* amongst this most calculating of all the calculating people of the British isles.

I have said I could wish to see Mr. Dick's lecture-room savour somewhat less of the forge; and I am sure he will excuse what I say, as it is all intended in fair candour and friendship. But I think if he were to attach a little more importance to external appearance, to attend a little more to effect, it would give the thing greater weight and credit in the public eye.

You may fancy to yourself a room of no very great dimensions

in an old and apparently long untenanted house in Clyde Street. You enter it from the street door, and are immediately struck with the delightful confusion which seems to reign within. Skeletons of all descriptions, "from a child's shoe to a jack-boot"—from a horse to an ape, not ranged in "regular order all of a row," but standing higglety pigglety, their ranks having been broken by the professor's table, and their heads looking in all directions, as if thrown together by chance. Over the professor's "devoted head" is seen suspended a portion of inflated and injected intestine, with its mesenteric expansion dangling in the air, something like a lure for flies; whilst all around the room, and especially in the corners, are heaped together vast quantities of diseased bones, and other preparations, seemingly without order, and without arrangement. Here we see no numbered specimens —no classification of morbid anatomy—no description book—all of which would tend to give the collection a *pretty effect*. Yet the lecturer has not only sufficient, but abundance for his purpose: his table is always covered with choice preparations. "Of that portion of the house" which is set apart for the audience, the best thing I can say is, that whenever I have dropped in, I have always found it *remarkably well filled*. It is fitted up with rough deal planks, set upon as rough props; the seats rising tier above tier, until your head touches the top of a very *dark coloured* ceiling. Of my friend, the professor himself, I may be allowed to say, without suspicion of flattery, that he appears to understand his subject perfectly; and although he may not possess that powerful elocution, that smooth, flowing, persuasive strain of eloquence, which carries every thing before it like a resistless stream, yet he is by no means deficient in the power of communicating his thoughts to others. Mr. Dick is still a young man; and as a lecturer, every year he is improving. His anatomical demonstrations, I may remark, are particularly clear, instructive, and satisfactory; and he seems to spare no pains in "well-grounding" his pupils in this, perhaps of all others the most necessary part of elementary knowledge. At the end of every course he subjects his class to a public examination. Here, at least, there is no hole and corner work—no secret tribunal: we have an open court, where all is straight-forward, fair, and above board. The professor seems to solicit enquiry. He assembles a kind of committee of what may be called some of the notables of Edinburgh —some of the noted medical men; and invites the members of the Highland Society and others to be present. This year he also solicited the attendance of all the veterinary surgeons in the neighbourhood, and requested them to examine: amongst the rest, myself. I could only be present the first day; but I must say

that the young men brought forward on that occasion acquitted themselves generally in a very satisfactory manner; I think highly creditable to the school.

At this examination I was very much gratified by seeing Mr. Ferguson of Woodhill presiding; one of the members of the Highland Society, and one of the warmest and most zealous friends that veterinary medicine has met with in Scotland: himself a man of almost universal information, he is at once the ornament of the agriculture of his country, and the most active promoter of every kind of *useful knowledge*. One warm advocate and patron like this is worth a whole *lane-full of* lukewarm friends.

Mr. Dick's pupils have the advantage of seeing his practice, which is very considerable in the town of Edinburgh; and whilst there, I had an opportunity myself of witnessing an operation of which much has been said, I mean that of dividing the flexor tendons of the leg (the perforatus and perforans.) This rather startling operation I saw very neatly performed by Mr. Dick; and I confess I should have been one of those not much inclined to believe that it could answer any good or useful purpose, had I not seen it with my own eyes. It is, I say, a startling fact; but then it is so, and there is no reasoning against facts; nor does it appear to be a proceeding by any means attended with the dangerous consequences one would naturally apprehend. Mr. Dick's father occasionally practised this operation many years ago; and I have heard it said, but I know not how far that may be correct, some other person in Scotland. But we may venture to say, whoever was the first to propose or to put such a measure into execution, was not deterred from it by any great knowledge of anatomy, or any considerable refinement of science. The Professor would scarcely have thought of venturing upon this operation, if his father had not done it before him. The subject I saw him perform upon was a grey cart-horse, belonging, I believe, to a poor man in Edinburgh. He was not more than seven or eight years old, apparently very strong and vigorous, but such a cripple as to be quite useless, I think, for any purpose whatever, in consequence of the crooked state of the off fore leg; having the pastern joint of that limb permanently doubled forward, fixed and motionless, in such a manner that he walked entirely upon his toe: and this appeared to have originated from an injury of the auxiliary ligament. There was a considerable thickening still to be felt over the tendons a little way below the knee. This deformed state of the limb had been going on gradually increasing for the last year and a half; and now, the joint being quite fixed

and motionless, it was what I should call a hopeless case ; for I should say, no human ingenuity could overcome the resistance of the tendons to the return of the joint into its proper situation. In this instance, I think it is fair to infer, that there was a considerable shortening or contraction of the sinews ; and which may be accounted for by the long-continued or permanently relaxed position of the limb.

After having cast and secured the animal, Mr. Dick proceeded to make a longitudinal incision, of about three inches in length, along the lateral and towards the back part of the tendons on the inside of the leg ; then, dissecting the skin back a little, he felt for the artery, vein, and nerve, which with his finger he pushed back, at the same time introducing a scalpel between them and the tendons, and pushing it on by the back of the suspensary ligament, as far as the common integuments on the other side : he was thus enabled to execute the division of the tendons, not at one cut, but by drawing the knife backwards and forwards several times, being careful not to cut or wound the skin, or leave any other opening in it except that made by the first incision. And this, I think, is a matter of sufficient consequence to merit attention ; for leaving the skin whole not only acts as a natural dressing and bandage over the part, but also covers what would otherwise be a great gaping wound, and prevents the consequent growth of fungus, or false granulations, during the healing process.

Both the tendons being completely divided, and which, by the way, will be found to be a tougher job than some people may imagine, Mr. Dick proceeded to put back the pastern joint into its natural situation ; and this he did by placing his knee against the front or projecting part of it, at the same time laying hold of the foot with one hand and the upper part of the leg with the other, and using considerable force, in the same manner as a person would do in breaking or bending a stick : and this appears to be necessary, in order to break down any membranous or ligamentous adhesions that may have formed. The joint being extended, and the limb thus made straight, the divided ends of the tendons appeared to be separated from each other perhaps rather more than two inches. A slight elastic bandage, in the form of a stocking, was drawn over the leg, and the animal was ordered a dose of physic ; nor did any other treatment appear necessary, for (which rather surprised me) very little constitutional disturbance ensued ; and, except for the first twenty-four hours, the horse seemed to experience but little pain. When I left Edinburgh, about three weeks afterwards, the case was doing remarkably well : a bond of union was taking place between the

tendons; the limb remained quite straight, and I have no doubt the animal will be not only useful again, but almost as effective as ever, for slow work.

My friend, Mr. Henderson, also of Edinburgh, informed me that he has had occasion to perform this operation more than once; and I am sure, from a paper he has read to me on the subject, and which I could wish to see him publish, that he can bear testimony of its utility. I have been induced to attempt a description of the operation as I saw it practised by Mr. Dick; for although a good deal was said of it some time ago, especially in the Sporting Magazine, I am not aware any one has given a detailed account of it; and it will be seen that it requires somewhat more nicety and manual dexterity than merely cutting *slap-bang* through the flexor tendons, as has been said. If I have not made a faithful report of it, or have omitted any thing material, I beg Mr. Dick may correct me.

A CASE OF NEUROTOMY.

By Mr. Richard Cortis, V. S., *Shipton, near York.*

In November last I was sent for to look at a bay carriage horse, belonging to the Rev. Mr. Dealtry, of Wigginton, in this neighbourhood, which had been lame of his near fore foot for upwards of two years: various means had been resorted to, but without success; he continued getting progressively worse, and was, at the time I was called in, absolutely useless. I found the foot contracted in a very high degree, with considerable ossification of the lateral cartilages: he stood pointing his toe, and was with difficulty turned round in his stall. After a few days of preparatory treatment, I proceeded to operate above the pastern joint, excising about an inch of the nerve on each side: he got up comparatively sound; in a few days was quite so; at the end of seven weeks resumed his work in the carriage; and has continued sound and at work up to the present day.

P.S. If any one of your numerous correspondents, who has paid attention to the diseases of horned cattle, would take the trouble of communicating, through the medium of your work, the most successful method of treating that fatal disorder amongst cows, commonly called the milk fever, he would confer a great obligation on those who practise that branch of the veterinary profession.

A CASE OF DISTENTION OF THE STOMACHS OF A COW, PARTICULARLY THE MANIPLUS, SUCCESSFULLY TREATED.

To the Editors of "The Veterinarian."

Gentlemen,

I transmit you a short account of a case in a cow which has come under my observation and treatment. Similar cases, I believe, have occured to almost every veterinary practitioner; but the treatment that has commonly been adopted has too often failed of relieving the animal. Having, in this case, adopted a different mode of treatment to what I ever had recourse before, and it being followed by speedy relief, I am inclined to believe that it will supersede most of our usual remedies. Should you think the following short account worthy of insertion in THE VETERINARIAN, it is much at your service.

Yours, &c.

J. COTCHEIFER, V. S. *Newark.*

ON the 26th March, 1830, Mr. Bonifant, of Langford, consulted me respecting two cows, which he said had gorged themselves with eating wheat chaff. One he thought was dead at that time, and he wished me to prescribe for the other. On my arrival at Langford, I found one of the cows dead, and learned, on enquiry, that it was a week the preceding night since they had eaten the chaff. They showed symptoms of being unwell two days afterwards. Mr. B. suspecting the true cause, gave to each of them a dose of sulphate of soda. The quantity I could not exactly ascertain; but he found no benefit from the dose he gave to either of them. He then sent to a cow-doctor in the neighbourhood for some medicine, which also proved of no service. The surviving cow was three years old, and in good condition. The symptoms were as follow:—dulness; loss of appetite both for food and water; disinclination to move; generally lying down, but quite still, and not showing any symptoms of pain; no appearance of any inflammatory action; the pulse a little above the natural standard, only forty-five in a minute (the natural standard pulse in oxen and cows I have always found to be about forty-two); cessation of rumination; no appearance of distention of the paunch, either from food or gas; the bowels very costive, nothing having been voided from them for three or four days, but small fæces, very little at a time, and stiff; the extremities were not at all affected, but appeared to contain their natural

heat. I then concluded, from the above symptoms, that the cause of the disease was from a quantity of dry food in the maniplus. I therefore prescribed for her 2 oz. of Cape aloes, and 6 drachms of ginger, to be given in a quart of warm water, and warm water to be given to her, by means of a horn, several times in the course of the day.

27th.—Little change had occurred; the pulse was still forty-five, and she lay down as usual, as yesterday; the bowels had not been opened, nor was there any appetite for either food or water. I then proceeded to examine the one that was dead. The stomachs were the first parts that came under my view. The rumen, or paunch, and reticulum, or honeycomb, contained a large quantity of half-masticated straw and chaff. There was much food in the maniplus, or manyplies, but not so dry and hard as I expected to find it. The contents of the intestines were also very stiff and dry. The rest of the abdominal viscera were quite healthy; so were also the viscera of the chest. I thought, from the result of this examination, that I had administered a sufficient quantity of purgative medicine to the other cow; and therefore resolved to try to remove some of the contents of the stomachs and intestines by means of Read's patent stomach pump and clyster syringe, which I was in possession of. I consequently proceeded to pass the œsophagus tube into the rumen, and injected a considerable quantity of water; I then tried to pump some of it back, but I found this impracticable from the lightness and half-masticated state of the food, which soon stopped up the syringe. I then injected water into the rumen until it was surcharged sufficiently to re-act upon its contents, which I succeeded in doing, and a considerable proportion of the contents of the rumen was discharged by vomit. Having succeeded in effecting this, I proceeded to administer a clyster, and very easily injected no less than three gallons in three minutes, without the least rejection of any portion of it during the operation. I then ordered the cow to be gently moved about, and to have warm water given her several times during the day.

On the morning of the 28th, a messenger from Mr. B. informed me that the cow was much better: her bowels were freely open, and she had eaten some hay and drunk some water, and had began to ruminate after eating. I heard no more of her until the 31st, when I saw Mr. B. and he informed me that the cow was fast recovering, although her appetite was not so good as it was before the attack.

I was again at Mr. B.'s on the 8th of April, and saw the cow, which had quite recovered, and appeared well in every respect.

P.S. Perhaps all veterinarians will not agree with me as to the medicine I make use of as a purgative in cattle, nor, perhaps, as to the quantity I adminstered; as I have heard it said by some veterinarians, that aloes is not a good purgative in cattle, and also that they take a less dose than horses; but so far as my experience goes, I have always found aloes a good purgative in cattle, and preferable to any other; and also found cattle to take larger doses of all medicines than I have been in the habit of administering to horses to produce the same effect.

Our friend Mr. Cotchiefer, the old pupil of one of us, will please to accept our thanks for the communication of this very interesting case. The value of the stomach-pump and injection-syringe are not sufficiently appreciated in veterinary practice. This animal was manifestly saved by them. They should be found in the establishment of every veterinary surgeon, and the practitioner on cattle cannot do without them.

The idea of injecting water into the rumen until vomiting was produced does Mr. Cotchiefer much credit.

To his theory of the comparative doses of medicines as administered to the horse and to cattle we must however demur. If a greater dose of purgative medicine may be safely given to the cow than to the horse, it is on account of the form in which it is exhibited. All cattle medicines must be given in solution. A ball would break through the floor of the canal which leads from the œsophagus to the third and fourth stomachs, and enter the rumen, and nauseate, and not purge. A liquid only will pass on to the manyplus and the true stomach; and a medicine given in solution, and extending over a larger surface, will not only operate more effectually, but more safely; taking likewise into the account, that there is no complicated cellular structure in the large intestines to detain the purgative and cause inflammation.

A larger dose than the horse will bear may, therefore, be safely administered to cattle; and there are cases, like the present, when, from the torpid state of the alimentary canal, the exhibition of a very strong purgative is absolutely necessary. When Mr. C. administered two ounces of aloes at once, in engorgement of the rumen and manyplus, he did not give a grain too much.

It should not be forgotten, however, that the very form of the medicine, which ensures its safety, ensures likewise its speedier and more copious effect.

We have purged quite as much as we wanted with three or four drachms of aloes; and it is the impunity with which a greater dose may generally be given to cattle that has gradually led to its

use; and its use has begotten the idea of its propriety. It is impossible to lay down any rule as to comparative doses; but we confess it to be our firm opinion, that while in cattle a larger dose will not produce the inflammation and superpurgation which are so often fatal in the horse, a smaller dose will generally have the desired effect.

To the administration of aloes to cattle we are not partial, except in cases like that which came under Mr. C.'s treatment. We have seen occasional mischief caused by this drug. As a mild, and perfectly safe aperient, we have sulphur, in doses of eight or ten ounces. As a stronger purgative in cases of inflammation, the Epsom salts, in doses of from fourteen to twenty ounces, will seldom fail, and never do harm.

EDIT.

A CASE OF VOMITION IN A MARE.

By Mr. W. BAKER, V. S., *Sudbury.*

ON the 26th of March last, Mr. Offord of Waldingfield, requested me to attend a mare, which he stated had the gripes. I saw her at eight o'clock in the morning, two hours after the first attack, and found her in great distress. She had been rolling very much till within the last twenty-five minutes, when she began vomiting copiously, and was prevented again lying down by the men leading her about the yard and road, the mare continuing, every four or five minutes, to eject a large quantity from her stomach, which flowed through both nostrils. Her pulse was 60, not full nor strong: she was in a perspiration, but not violent. The owner had taken two quarts of blood from her before I arrived. I immediately dissolved ʒiii of opium in half a pint of hot water, and as soon as cool, gave a third by the mouth, and the remainder, with the addition of a little water, as a clyster, both of which were retained, and the mare appeared immediately easier, not attempting to lie down; nor did she again vomit, although she made occasional efforts, by drawing in her neck, &c. As the treatment had so decided an effect, I repeated it at the end of an hour, after which I left the mare standing with her head over the crib, with one of her hind legs extended as far behind her as it was possible to put it; and in this position she remained near three hours, not moving the least, not so much as to draw up the extended limb (I merely mention this to show the effect produced by the second opiate, or rather by both combined). Upon a sudden the mare turned round, appeared animated, and looked for food, which I at present prohibited, only allowing her

cool gruel. Next morning she appeared well, as if nothing had ailed her. Her bowels had not been relieved since I saw her at first. I however did nothing but order a mash diet: the mare appearing well, I thought it best to let well alone; and in the course of the afternoon she dunged freely, and has since continued quite well. I consider the case a primary attack of spasm, and should think she vomited at least five or six quarts.

SINGULAR STRANGULATION OF THE SPERMATIC CORD.

By the same.

As the following is a singular case, and the only case that I ever had the opportunity of examining, where the testicle remained in the abdomen, allow me to ask if the spermatic cord, in such cases, is usually as long, and the testicle found in the same situation, as there described.

Sunday, 16th March, 1828, I was requested to attend a horse of Mr. Shades, of this town, with symptoms of abdominal inflammation, for which I employed the usual remedies, without any remission of symptoms, till the evening of Tuesday the 18th, when he died. Upon examination, I found a large testicle in the abdomen, which had rested on the abdominal muscles on the left of the umbilicus, the spermatic cord of which was surrounded by the intestines, and was twice twisted, about two inches above the testicle, so as to stop entirely the circulation: the testicle was black and gangrenous, and the whole cord above the twist highly inflamed, as was the peritoneum, upon which the testicle had rested, about four or five inches round, and in the centre a little ulcerated. The rest of the viscera appeared healthy.

ON THE DISEASES OF THE EARS OF DOGS.

By W. Youatt.

All water dogs are subject to a disease of the ear, called "canker within the ear," and which is inflammation of the integument lining the inside of the ear. When the whole of the body, except the head and ears, is surrounded by cold water, there must be an unusual determination of blood to these parts, and consequent distension of the vessels, and predisposition to inflammation. A Newfoundland dog, or setter, or poodle, that has

been subject to canker is often freed from a return of the disease by being kept from the water.

The first symptom of canker is frequent shaking of the head, holding of the head on one side, violent scratching of one or both ears. Redness of the integument will now be observed, and particularly of that portion of it lining the annular cartilage, accompanied usually by some enlargement of the folds of the integument. If the ear be well washed two or three times in the day with luke-warm water, and after that a weak solution of the extract of lead be applied, and a dose or two of physic be given, this will speedily disappear.

If the animal, however, be neglected, the pain will evidently increase ; the ear will become of an intenser red, the folds of the integument will enlarge, and there will be a deposition of red or black matter in the hollow of the ear. The mucous membrane lining the meatus is now pouring out a small portion of bloody fluid with its natural secretion, and as the aqueous part of the fluid evaporates, the colouring matter of the blood remains. The case is now more serious, yet not presenting much difficulty of treatment. This deposit must be carefully washed away with warm soap and water, and the extract of lead, in the proportion of a scruple to an ounce of water, be frequently applied, until the redness and heat are abated. A solution of alum, in about the same proportion, should then follow. Some attention should be paid to the method of applying these solutions Two persons are necessary to apply them with effect : one of them should hold the muzzle of the dog in one hand, having the root of the ear in the hollow of the other hand, and between the first finger and thumb ; the assistant will now pour the liquid into the ear (half a teaspoonful will usually be sufficient) ; the first person, without quitting the muzzle of the dog, will then close the ear, and gently mould it until the liquid has insinuated itself, as deeply as possible, into the passage of the ear.

Should not the inflammation abate in the course of a few days, a seton should be inserted in the poll, between the integument and the muscles of the occiput, and reaching from ear to ear. The excitement of a new inflammation so near to the part previously diseased, will very materially abate the original affection.

Physic will now be indispensible. From one to three grains of calomel may be given daily, with an equal quantity of antimonial powder ; or from half a drachm to two drachms of aloes, with from one to three grains of calomel, every third day.

Should the complaint have been altogether neglected, or the inflammation so great as to bid defiance to these means, ulceration

will speedily follow: sometimes deep in the passage, and only to be detected by moulding the ear, when the *squash* of the effused pus will be heard; at other times spreading over the full extent of the annular cartilage, and occasionally occupying the whole of the inside of the ear, to its very tip. However extensive and annoying it may be, and occasionally causing so much thickening of the integument as perfectly to close the ear, it is always superficial: the cartilage of the ear is never in the slightest degree affected, the membrane which separates the internal mechanism of the ear from the external passage is never destroyed, and the accounts of cancerous affections are altogether imaginary. The animal may, notwithstanding, suffer extreme pain, and the acrid discharge from the ulcer may produce extensive excoriation of the cheek, and the system may sympathize with the excessive local irritation, and the animal may be lost.

The treatment here must vary with circumstances, although a seton is indicated whenever there is ulceration. If the ulceration be deep in the ear, and there be not much apparent inflammation, recourse may be had at once to a stimulating and astringent application, either the alum solution, or a solution of white vitriol, in the proportion of six grains to an ounce of water: but if the ulceration occupies the greater part of the hollow of the ear, and is accompanied by much thickening of the skin, and apparent filling up of the entrance to the ear, some portion of the inflammation must be first subdued. The ear must be frequently fomented with a decoction of white poppies; to this must follow the Goulard lotion, and then the solution of alum. To the soreness, or scabby eruption, which extends higher up the ear, olive oil or spermaceti ointment may be applied. In some cases portions of the thickened skin, projecting and excoriated, and pressing on each other, unite, and the opening into the ear is thus mechanically filled. I know of no remedy for this. It is useless to perforate this adventitious substance, for the orifice will soon close; and even when I have made a crucial incision, and cut out the unnatural mass which closed the passage, I have found it impossible to keep down the fungous granulations, or to prevent total deafness.

All dogs improperly gross and fat are subject to this disease. It seems to be a natural outlet for excess of nutriment or humour; and where a dog has once laboured under the disease, he is very subject to a return of it. The fatal power of habit is in few cases more evident than here. When a dog has symptoms of mange, the redness or eruption of the skin generally will not unfrequently disappear, and bad canker will speedily follow. I have sometimes considered canker, and I think not improperly, as

mange of the ear; and hence the necessity of aperients and alteratives. The habit may be subdued, or may be kept at bay by physic, and the use of the Goulard, or alum, or zinc lotions.

Sportsmen are sadly teased by another complaint of the ear, likewise denominated "Canker," but, from its situation, "Canker without the ear." Pointers and hounds are particularly subject to this disease. It commences with a scurfy eruption and thickening of the edges of the ear, apparently attended by a great deal of itching or pain. The dog is continually flapping his ear, and, beating it violently against the head; the inflammation is thus aggravated, and a soreness appear on the tip of the ear. As this increases the dog becomes more impatient, and shakes his head more violently, and with all this beating the ulcer spreads, becomes sadly indisposed to heal, and eats not only through the integument and cellular substance beneath, but through the very cartilage, and a fissure or crack appears in it which is characteristic of the disease. The first thing to be done is to confine the ear. While the animal thus beats it about no good can be effected. A piece of strong calico must be procured, six or eight inches wide, and sufficiently long to reach over the head, and meet under the jaw. Along each side must be a *running* piece of tape, and a shorter piece sewed at the centre of each of the ends. By these tapes the cap may be drawn tightly over the head above the eyes, and likewise round the neck behind the ears, so as perfectly to confine the ears. No mild unguent will dispose such an ulcer to heal; recourse must therefore be had, at once, to a caustic application. One scruple of the nitrate of silver may be rubbed down with an ounce of lard, and a little of this rubbed twice every day, and tolerably hardly, into the sore, until it assumes a healthy appearance, when it may be dressed with the common calamine ointment. If the discharge should again become ichorous, the practitioner must return to the caustic ointment. The cartilage will not close, but the integument will gradually cover the exposed edges, and the wound will be healed. The ear will, however, long continue tender; and, if it be much beaten by the shaking of the head, the ulcer will re-appear. This must be obviated, by occasionally confining the ears, not over-feeding the dog, and keeping the bowels in a relaxed state.

Sportsmen are accustomed to *round* the ears, that is, to cut off the diseased part. In very few instances, however, is the cure permanent. While the dog is sadly disfigured, a fresh ulcer speedily appears on the exposed edge of the ear, and which proves to be more difficult to heal than the original one. The raw edge is in the operation probably inoculated with the virus from the original ulcer, or so much irritation is produced in a part already inflamed,

and disposed to ulceration, that the disease, nine times out of ten, re-appears.

In the Newfoundland dog, canker on the ear assumes the form of a superficial ulcer, sometimes on the inside, but oftener on the outside, near the top of the ear, and not penetrating to the cartilage. It seems to be exceedingly painful, and yields only to the ointment of the nitrate of silver, assisted by confining the ears with a cap.

Spaniels have frequently a mangy inflammation of the edges of the ear. It does not run on to canker, but the hair comes off round the edges of the ear, accompanied by much scurfiness and thickening of the skin. The common sulphur ointment, mixed with an eighth part of mercurial ointment, will speedily remove this affection.

From the irritation produced by canker in or on the ear, and the constant flapping and beating of the ear, there is sometimes a considerable effusion of fluid between the integument and the cartilage, and occupying the whole of the inside of the flap of the ear. The only remedy is, to open the enlarged part from end to end, carefully to take out the gossamer lining of the cyst, and then to insert some bits of lint on each side of the incision, to prevent its closing too soon. In a few days the parietes of the cyst will begin to adhere together, and a perfect cure will be accomplished.

If the tumour be simply punctured, the incision will speedily close, and the cyst will fill again in the space of four and twenty hours. A seton may be used, but it is more painful to the dog, and slower in its operation.

STONE IN THE BLADDER.

By Mr. John Percivall, *Senior V. S. Royal Artillery.*

To the Editors of "The Veterinarian."

Gentlemen,

Although of old—I might almost say, *ancient*—date, I have ventured to send you the annexed account of a case that never occurs in our practice without interest; and I trust it will turn out an acceptable one.

On the morning of April 25th, 1805, the subject of the present case was taken unwell with symptoms of ordinary gripes, for which he was treated by venesection, turpentine drenches, &c. &c. but without relief: for he continued lying down and rising again every minute; he sweated profusely from pain; his pulse was small and quick, and at times scarcely perceptible at all. Laudanum was afterwards had recourse to; but with little if any

success. It was soon remarked, however, that he made frequent attempts to stale; and that, with all the effort he could use, but very little urine was voided. This led our attention to the urinary apparatus. My first thought was to attempt to pass a whalebone probe along the urethra; but, to my surprise, I could not even effect this. I immediately sought for the cause of impediment; and I found it. It was obstruction at the mouth of the canal by two pieces of calculus, about the magnitude of walnuts, which, without much difficulty, were dislodged and abstracted.

After this operation the animal shewed signs of relief from pain: but, still, from the very circumstance of the presence of urinary calculi, I deemed it right to proceed without delay to examination of the bladder. The result proved at once perfectly satisfactory; for I immediately discovered that a calculus (as near as I could imagine from the feel) about the size of a hen's egg was lying within and obstructing the passage through the neck of the bladder. I did all I could with my hand to dislodge it—to thrust it back into the cavity of the bladder; or even to force it on into the urethra: but I could effect neither one nor the other. On a second examination, however, shortly after the first, I found, much to my surprise and something to my joy, that the stone had, of itself, slipped from its original place into the curvature of the urethra, a situation, almost of all others, I considered to be the most favourable for an operation; and therefore I hesitated not a moment to take advantage of this, the symptoms by this time having become of a most pressing and perilous character. The unfortunate animal, however, did not survive the necessary precautionary measures to such an operation: previous pain and present suffering brought on exhaustion and death even before we, ourselves, were prepared for it.

Examination after Death.

The stone was found in the situation afore-described. The membrane lining both the urethra and bladder had undergone great alterations: it had become generally thickened very much; and was in places deeply ulcerated. Moreover, the ulcers had not only extensively corroded, but had eaten completely through the substance of the bladder, making a hole as large as a common quill, through which urine, to the amount of eight or nine gallons, had transfused itself into the cavity of the belly. The fluid had induced a violent inflammation over the peritoneal lining of the cavity and coverings of the different viscera, more particularly of that of the intestines.

Mr. Cruikshanks did me the favour to analyse the stone, and pronounced it to be composed principally of calcareous earth.

THE CHEWGORE IN SHEEP.

Gentlemen,

If any of your correspondents can throw any light on the following extract from a letter received from Van Diemen's Land, he will much oblige a constant reader. T. ———

"One sheep has died of a disease called the Chewgore. Mr. R. "has seen it before; and says that in Scotland it usually attacks "the worst sheep in the flock, such as are not worth attending "to, and therefore little attention is paid to them. The sheep "attacked by it here were the best of the ewes. The most ob- "vious symptom of it is a constant dropping of water from the "mouth, which is always frothy. A person not conversant with "the disease would suppose, from its appearance, that the animal "had eaten some poisonous herb; but the length of time that it "exists in a gradually increasing state of disease, which does not "terminate its life under three weeks or a month, induces me to "refer it to some other cause."

The name is perfectly new to us, nor are the symptoms sufficiently detailed to enable us to decide on the real character of the disease. Perhaps some of our northern correspondents will kindly throw some light on the subject.—Edit.

ESSAYS ON HORSE MEDICINE;

COMPREHENDING THE THEORY AND PRACTICE BOTH OF THE FRENCH AND ENGLISH SCHOOLS.

By O. P. Q.

Abscess means a tumour containing purulent matter, or in fact any *collection* of such matter. The term is said to be derived from the Latin *(abscedo)*, signifying *to depart;* because parts which were before contiguous recede, to make room for the matter deposited.

Strangles, quittor, pole-evil, and *fistula,* are so many various examples of abscess; and to the accounts to be given of those diseases I must refer my reader for particulars, which, in course, will vary according to the nature of the case; it being my intention in this place to unlimit my observations to *abscess in general.*

Abscesses are of two kinds—*acute* and *chronic.* Whether it be from external injury, or from any internal cause, when inflammation attacks any particular part or place in which there exists

cellular membrane, and is suffered to run on, or should resist the means that may be used to subdue it, that inflammation may be expected to be productive of abscess. The first effect of the inflammatory action is the effusion of adhesive matter, infiltrated with serum; hence the swelling, solidity, doughy feel, heat, and tenderness of the part. This semi-solid deposition becomes the nidus for the purulent matter, which first makes its appearance in the very centre of the tumour, being there deposited by the mouths of those bloodvessels that so recently effused the lymph or adhesive matter, but which now, from some unaccountable change of function, secrete *pus*. The purulent matter accumulating, presses against the sides of the solid matter inclosing it, and thereby occasions the absorption of the latter; in which way a cavity is formed, growing hourly larger and larger until the firm and solid tumour is transformed into a soft and compressible one, which the touch of the practitioner recognises to be an abscess.

According to a general law of pathology (unless the nature of the case be such as to render it inexpedient or impossible), all abscesses make their way by absorption to the surface of the body, in order to evacuate their contents externally: a notable and admirable exception to this, however, presents itself in the case of an internal abscess breaking into the alimentary canal, or air passages, and yet the same end is obtained, viz. that of external evacuation. As soon as the purulent matter has arrived underneath the skin, the tumour becomes conical or circumscribed, and soft and fluctuating: the part is said to have *festered*, and to be now *ripe*, or fit for evacuation. At this stage, should no surgical means be used, the part of the skin which feels softest, and which is commonly the most prominent spot in the tumour, and is further indicated by a separation or actual loss of hair, will continue to grow thinner and thinner, in medical language to *point*, until it at length bursts from the pressure of the matter against it, and the abscess is said to *break*.

I know of no case in which it is not advisable to open an abscess rather than suffer it to break; and as a general rule it is good práctice to give vent to the matter as soon, or very soon after, it has manifested its presence. During the formation of an abscess, we make use of emollient means, fomentations and poultices, to encourage the process; or we endeavour, by what we term *discutients*, to disperse the tumour by producing a reabsorption of the matter deposited into the system; it being now admitted by pathologists that repelling matter back from whence it came is nowise dangerous to the animal body: or, thirdly, we apply stimulants to the tumour, such as blisters, which some-

times have the effect of suppressing it; at others, of bringing it forward to maturation.

Veterinarians are in the habit of adopting *two* modes of opening abscesses---*incision* and *cauterization*. The ordinary method of letting out the matter is to plunge a broad-shouldered lancet into the pointing spot of the tumour; and at the same time, by a sudden turn of the point of the lancet outwards, to extend the incision in whatever direction it may seem best to dilate the opening, which is rarely of sufficient dimensions without the subsequent incision; indeed, if the tumour is one of magnitude, a lancet is an insufficient instrument: either a sharp-pointed bistouri or a double-edged scalpel should be employed, it being the grand *desideratum*, in almost every case, to make the wound such as will give a free and ready exit to the matter. The cavity being opened, a probe of large size is commonly introduced and moved about in various directions, in order to remove all obstacles to the efflux of the matter; or the same may be done with the finger. Heurtrel D'Arboval, however, warns us against rupturing any of the little chords which are every now and then found to run across the cavity, lest we destroy the vitality of the skin, to which, he says, they convey bloodvessels and nerves.

In the case of large abscesses, or where there are dependent places in which the matter lodges, in spite of the opening already made, it is often good practice to introduce a *seton;* which may be done by making another hole through the skin, and drawing a piece of coarse broad tape through the cavity, making knots at the ends of it to prevent them from entering the interior. Some tie the two ends together; but this is in general a very objectionable, not to say dangerous practice; since, should the animal, by any chance, hitch the loop upon any thing, the seton will probably get torn out, and extensive laceration ensue.

The actual cautery is not often used, now-a-days, for opening abscesses; still there are cases wherein it seems the preferable mode of proceeding. The case of chronic abscess, in which suppuration has been slow and tedious, and of an unhealthy nature, is the one I more particularly allude to. A protracted and immature suppurative process bespeaks equal protraction and sluggishness in the granulative action, and calls upon us for the employment of excitants; and one of the most potent and efficacious among them is the hot iron, on which account I would use it in preference to the lancet in cases of this description.

Having discharged the matter, our next consideration is what dressing, or if any, is required for the abscess, the cavity of which must be filled up by a process of granulation, and the lost skin renewed by cicatrization. In ordinary cases, some astringent

dressing is all that is required; and the best, as well as the most simple, are solutions (for I prefer them to ointments), of white vitriol or alum; though some practitioners prefer stimulants, such as spirits of turpentine, or tincture of myrrh. Should the discharge be not of the most laudable character, an escharotic dressing is proper, such as a solution of blue vitriol. A solution of lunar caustic, gr. x. or ℈j to ℥j of water, is an excellent corrective of any unhealthy tendency. In general, the fomentation and poultices should be persevered in after the matter is discharged. Now and then, where the cavity is extensive, and the situation admits of it, much benefit may be derived from bandaging the parts, so as to keep the opposed surfaces of the cavity in contact; in which way they may be often got to adhere, and the cure in this manner accelerated.

A CASE OF HYDROPHOBIA, AND REMARKS ON THAT DISEASE.

By the kindness of the Editor of The LANCET, I am enabled to send to The VETERINARIAN a very interesting case of Hydrophobia, with a Clinical Lecture on the nature of that dreadful malady, more ingenious and satisfactory than any thing I have seen. W. Y.

Clinical Lecture by Dr. ELLIOTSON, *delivered at St. Thomas's Hospital May* 17*th*, 1830.

ON arriving at the hospital, on Thursday, the 13th inst., I was told that Dr. Roots wished to see me immediately in Luke's Ward, as he had admitted a case which he was convinced was hydrophobia. He, nevertheless, wished to know if my opinion coincided with his own. On reaching the ward, I found a boy, named William Charles, aged sixteen, with a full and flushed face, much marked with small-pox, lying in bed on one side, with the bed-clothes nearly up to his mouth. He was resting perfectly still, but, on my attempting to raise the clothes from his face and neck, he suddenly fetched a deep breath, then seemed half choked, and about half a dozen such sobs occurred in very rapid succession, his countenance expressing at the time extreme distress, and he piteously entreating that I would desist: of course I did so. I then attempted to take hold of his wrist, which was under the bed-clothes, for the purpose of feeling his pulse, when the same occurrence took place, as a slight wave of air was necessarily induced upon his face by the attempt. Again, while he was lying

quiet, with his head partly under the bed-clothes as before, and having *his eyes closed*, I held my hand, with the points of the fingers extended towards his forehead, and on merely bending the fingers down towards the palm of the hand, keeping the arm and all the rest of the hand perfectly still, sufficient agitation of the air was produced to make him instantly open his eyes, take a sudden inspiration, feel choked, experience a succession of convulsive sobs, and express the same agony of countenance as before, asking me why I did so, and imploring me not to draw the wind upon him in that way. I could not hesitate for a moment to coincide with Dr. Roots as to the nature of the case.

The following account was given me of what had taken place: The boy had been brought to the hospital that morning by his mother, on account of a difficulty of breathing; and it was stated, that he had fallen down while carrying a sack of coals on board a barge a week previous, and hurt his chest. Dr. Roots, after his coat and waistcoat were unbuttoned, and his shirt was opened, touched the part of his side where he said he had been hurt, when he instantly shuddered, and a catching of the breath ensued. An examination was made, to ascertain whether this pain was occasioned by the fracture of a rib, or by some other cause; but nothing was discovered, and twelve ounces of blood were taken from the arm. While standing by the patient during this operation, Dr. Roots pulled out his snuff-box; the agitation of the air occasioned by this action produced a similar affection of the organs of respiration, as I have already stated I produced myself. Dr. Roots, in consequence, at once suspected the true nature of the case, and ascertained that a draught of air invariably had this effect. A looking-glass was sent for, and the reflection of light cast from it upon the boy's face, produced the same sudden inspiration and convulsive sobs. He gazed at it intently for a few seconds, hid his face with his hands, desired it might be removed, and was then seized with the affection of the breath. Some milk was now brought him to drink, but the sight of this produced the same effect as the cold air and the looking-glass. Upon further inquiry, it appeared, that, before Dr. Roots saw him, his mother had taken him into the apothecary's shop, which he refused for some time to leave and go to the ward into which he was admitted, declaring that he could not bear the cold air out of doors upon his face. His mother also stated, that he had been poorly for the last day or two; she hardly knew in what way, but said he had been very irritable, and complained of pain in the shoulders and breast. She further stated, that, early on the morning of his admission, he had gone into a room where his brother and sister were quarrelling, and when she came in to interfere, the draught of air

caused by the sudden opening of the door produced such an effect upon him, that he rushed out of the room as if he were mad. It was the frequent return of the difficulty of breathing that induced her to bring him to the hospital.

I was, of course, very cautious in making inquiry respecting any bite which he might have received; and I began by asking if he had been hurt in any way; but though this was only in a whisper, and behind several gentlemen who were standing at the bedside, I immediately learned that there was no occasion for reserve on the subject, as he was quite indifferent to the matter. He denied to me having been bitten by any dog or cat, or, indeed, having been in the way of receiving any such injury. As he not only had pock-marks, but was even seamed by the small-pox, it was impossible to say whether any of the scars upon his face and hands were attributable to another cause. It was afterwards discovered, when persons who had known the patient, and had not been seen at the hospital, were examined at the coroner's inquest, that he had been bitten by two dogs, and by one respecting which there are some suspicions. It was a strange terrier which he had picked up in the street at Christmas last, and carried home to his master's with the intention of keeping it. During the night, on account of the dog's making a noise and gnawing the door, the boy went out to quiet it, and was bitten in the hand: the dog was afterwards driven from the premises, and has not since been seen or heard of by the boy or his master.

As it was desirable that the boy should be kept as tranquil as possible, he was removed from the ward into the private room of sister George. Dr. Roots, recollecting that there was sufficient evidence of the failure of all the narcotics employed in this country, and that lead had been spoken favourably of, and had not, at any rate, been *repeatedly* tried, intended at first to treat the case with the latter. Some of the superacetate, dissolved in a minute quantity of water, was put upon a lump of sugar and offered him in a teaspoon; but he absolutely refused to swallow it, declaring that he could not; and becoming so distressed at the request, that the sudden inspiration, followed by convulsive sobs, took place, and he was greatly agitated. It was determined, therefore, to give the lead in a clyster; but as it was desirable that the bowels should be cleared before medicines were administered in that way, an injection, containing some ounces of oil of turpentine, was administered, containing, however, a portion of lead. In order that as little time as possible might be lost, and to introduce still more of the lead into the system, the cutis of the chest was denuded by producing a large vesication, through the medium of a flat-bottomed metal bason, filled with boiling water, placed

upon it for a few moments, and some lint moistened with the solution of lead was applied. Mr. South coming into the ward, reminded us that the *guaco* was said to be an absolute specific for hydrophobia; and as its virtues had never been put to the test in this country, and the qualities of lead were, after all, doubtful, Dr. Roots, very properly, instantly determined on putting the powers of this plant to the test, provided any of the juice could be procured. I now recollected that Sir Robert Ker Porter had given some of the expressed juice to the College of Physicians; and I instantly wrote a note for it, thinking that the article could not be put to a better purpose.

At about half-past four the guaco arrived, and the following is the report of the case from that time. Before reading the report I should remark, that the administration of the enema, and the production of the vesication, necessarily produced severe attacks of the affection of his respiratory organs, and violent general excitement; but from the time that I first saw him, he lay still in the intervals when not disturbed or interfered with, and was as calm as a person under ordinary circumstances, showing, however, a desire to be left alone and remain quiet, occasionally having a catching in his breath and a sob. As he lay I had thought the pupil rather dilated; the pulse ranged from about 80 to 96, of a natural character; the heat was natural, and the face, as I have already mentioned, rather flushed.

At *half-past four*, then, the guaco juice was brought; but as he refused to swallow it, two ounces were injected per anum. This appeared to produce an effect, for he remained tranquil for some time after, and seemed disposed to continue so. The slumber, however, was unsound, and disturbed by the slightest noise; and the return to consciousness was accompanied, on every occasion, by a violent pain in the throat, and by convulsive sobs. He would start from his recumbent posture, wrap the blanket around his body to exclude the air, and with the most agonising expressions of countenance labour for several seconds convulsively for breath. With a view to obtain more effectually the virtue of the guaco, some moistened leaves of it were applied to the chest. The moisture at first distressed him, but he made a great struggle to permit this procedure; and the leaves were at length put on, and when there, he expressed himself pleased with their presence.

Six o'clock.—The paroxysms have returned more frequently; and it was proposed to him to have the chest again moistened: the proposal, however, was too much; for, starting as usual from his recumbent position, he relapsed into a most violent fit. Refusing thus obstinately, it was resolved to apply the remedy by

force; but the sound of the moistening of the leaves was sufficient to produce the usual awful train of symptoms.

Half past eight.—The paroxysms continued to return with great frequency until this time, when he was visited again by Dr. Roots. Before, however, the Doctor came, a lighted candle had been brought into the room, and this excited him in a most frightful degree. The effect was instantaneous; for, though unconscious that it had been sent for, the moment the first ray from a distance entered the room, he sprang, as before, convulsively from his bed, and exhibited his usual fit. The secretion of saliva had now become more than naturally abundant, and he spat it, without any care, about the room. Dr. Roots ordered the throat to be covered with a plaster of the extract of belladonna, and that the guaco should be administered, if he would take it by the mouth, every hour. He suggested, too, that a strait jacket should be employed.

Eleven o'clock.—The medicine was, as ordered, administered every hour; and though it required great exertion on the part of the patient to take it, he contrived to do so. It was always necessary to prepare him for the effort of swallowing his medicine, by stating that it was time to take his medicine. He would then request his back to be supported by an assistant, and that the moment he had swallowed the fluid the assistance might be withdrawn, and he be allowed to fall back. In this way he was sustained behind, while a second assistant held before him the liquid in a small bottle. The anticipation invariably produced a spasm; but, after that had subsided, he would prepare himself for the awful effort. The eye would turn, from time to time, with an expression of intense fear, till, in a moment of frenzy, and with the rapidity of a bird pouncing on its prey, he would dart at the vessel, and then, swallowing the fluid, fall back on the bed in a violent spasm. This effect was usually so violent, that, with a convulsive spring, he would strike his head against the headboard of the bed.

Twelve o'clock.—The prepared juice of the guaco, obtained from the College of Physicians, having now all been used, a quantity of the extract, which had been sent to the hospital by Mr. Cæsar Hawkins, was had recourse to. A drachm of this was rubbed down in an ounce of water, and was administered and taken by him in the usual way.

Friday, one o'clock, A.M.—Passed the last hour much more tranquilly than any since his admission; but it would be difficult to say whether this was an effect produced by the medicine, or by the greater quiet and stillness of the room.

Two o'clock.—The medicine repeated. During the last hour, an occurrence took place worthy of notice. It was supposed, from the long calm and quiet he had enjoyed, that he was sleeping. His eyes, it is true, were open, but the hands of another person had been passed before them, and he had shown no sign of notice. At this time a glass of water was brought into the room for one of the attendants, and placed on a chest of drawers; but as soon as it was there, the wretched patient could be heard labouring to suppress the rising convulsion, till, unable any longer to restrain himself, he sprang as usual from his bed, and after an agonizing struggle for breath, shouted, as soon as he had obtained it—" The water; away with it!"

Three o'clock.—The medicine repeated. In the course of the last hour, he has had several attacks. During one of them—roused from his state of stupor (for it could not be called sleep) by one of the attendants crossing the room, he leaped from his bed, and rushed frantically against him, giving vent to some incoherent expressions of anger, though, immediately on retiring to bed again, he apologised for what he had done.

Eight o'clock.—From this time to 8 A.M. the medicine had been repeated every hour, and two enemas injected; but the spasms were very frequent in their recurrence. It should here be remarked, that the sound of urine, and the sound *and sight* of his own water, did not disturb him; for a chamber-vessel was used without reserve by those who were in the room, and once by himself without any distress. The pulse through the night was now about 130 and 140.

Half past eight.—Dr. Roots again visited him. His opinion was, that the symptoms were all aggravated. The lighted candle was again brought in, and its presence again convulsed him. It appeared, however, that in this there was a great deal of imagination; for, engaging his attention in other matters, Dr. Roots brought the light eventually close to the eye, without occasioning much disturbance. There was another object in using the lighted candle, which was, to discover the condition of the pupil. It appeared extremely dilated, and did not contract on the close application of the candle; but it would be difficult to say whether this was the effect of the disease or of the belladonna applied to the throat. Dr. Roots asked him what he would take as food; and at his request an egg and some porter were procured for him.

Ten o'clock.—Since the last report the convulsions have been very violent and frequent, and he has shown more irritability of temper: he spits incessantly, and the countenance has become much flushed and violent in its expression. Within the last hour,

too, a fresh symptom has manifested itself, namely sickness. This has been extremely violent. He has, too, been troubled with a great deal of flatus.

Twelve o'clock.—During the last two hours it can only be said, that the symptoms have in every degree increased.

At one o'clock his irritability had augmented, the secretion of saliva was excessive, and he cast it about him in every direction. An enema of gruel had been exhibited about half an hour before, and had distressed him a good deal by the frequent inclination to stool. Another enema of the guaco, as he refused to take it by the mouth, was proposed: this incensed him to a great degree, and it was necessary to threaten him with straps. His legs were secured, and on proceeding to confine his hands, he, for the first time, showed a disposition to be vicious; for collecting the saliva in his hands, he discharged it in the face of the attendant. It was then deemed necessary to secure him with the strait-jacket. Indeed, while evincing this vicious inclination, he earnestly requested to be secured, stating that he was losing his senses, and was then almost mad. No sooner, however, were his legs liberated, and one of the attendants had retired for the jacket, than, keeping the others from him by spitting and throwing his saliva upon them, he suddenly sprang out of bed, seized the large syringe, which was filled with an injection of turpentine, and advanced against those present, spitting and discharging its contents at them. The gentlemen present thought it prudent to retire for a moment, and forgetting that the key was inside, shielded themselves behind the door. This he instantly closed and locked. In the short space that intervened before it was burst open, he had tried the window, which was secure; and it would appear, had climbed upon the drawers; but he returned again to open the door, though before he could accomplish this he fell from exhaustion. When the door was forced, he was found lying just within, in a state of insensibility. He was then removed to bed, and confined with a strait-jacket. From this time a great change took place. Instead of fearing to eat and drink, he called for both food and liquids, which he consumed freely, and without difficulty. The vomiting, however, continued, and whilst eating voraciously, he continued to retch; but this he made great efforts to suppress, and often chewed again and re-swallowed his own vomit. His mind at this time was in a state of great excitement. It could not be called aberration of intellect: it was ungovernable fury.

At about a quarter past three P.M., Dr. Roots again visited him. His countenance had, within the last ten minutes, undergone a considerable change for the worse; it was livid and con-

gested; the temporal artery could with difficulty be felt. He could not, however, be supposed, by any of his symptoms, and especially not from the strength of his exertions, to be so near his death; and another dose of the guaco was offered him. With a view also to allay the morbid irritability of the stomach, two drops of medicinal, or diluted, prussic acid were mixed with it.

The medicine had scarcely been placed in the mouth and swallowed, before a surprising change took place. The eyes were sternly fixed "on vacancy;" the lips became purple; the corners of the eyebrows elevated and contracted; and a spasmodic action passed over the whole face; the alæ of the nostrils dilated; and then, with a forcible extension of the whole body, he fell back and expired without a sigh or a groan*.

This, gentlemen, was a well-marked case of hydrophobia. It presented nothing *peculiar*, but was an excellent *illustration* of the disease. Although the name is derived from the dread of fluids which the patient entertains, whether attempted to be swallowed or touched, or even when merely seen, this terror is but one symptom of the disease;—the most obvious, perhaps, to a common observer, but one which has sometimes, in a great measure, been absent, which, in most cases, intermits during the disease, and sometimes at length ceases, and which occurs also in some other affections, particularly in violent inflammation of the pharynx and surrounding parts. The present patient swallowed altogether, during his disease, a large quantity of fluid, and frequently asked for it; indeed, I have seen a patient take a bason of bread and milk not long before his death, without any difficulty. Rabid dogs, likewise, have drunk to the last, and swum across water[1]. In fact, the difficulty of swallowing respects not merely liquids, but solids also[2]. The present pa-

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[1] In the rabid dog there is, at no period of the disease, the slightest dread of water; on the contrary, the thirst is unquenchable. The dog will spend a considerable portion of his time hanging over the water, lapping it, and vainly endeavouring to swallow it. His inability to swallow does not, however, seem to depend on irritation or inflammation of the pharynx, but on loss of power over the muscles concerned in deglutition.—W. Y.

[2] I must leave this point to be settled by those who have had more experience than myself in the symptoms of rabies in the human subject. My opinion was, that solid food is swallowed

* The bowels had not been opened whilst in the house, excepting the return of the first enema.

tient refused to take even a lump of sugar into his mouth. The most characteristic, indeed, the peculiar feature of the disease—that which is, perhaps, pathognomonic—is the effect produced on the diaphragm and muscles of the throat by the slightest draught of air, the smallest sudden drop of fluid, or even by the slightest sudden touch that may be made with the finger upon any part of the body[1]. It was a knowledge of this fact which led Dr. Roots to discover so early as he did the nature of the disease; and I must remark, that I think it reflected great credit on his carefulness and his sagacity. Had he contented himself, when the boy complained of difficulty of breathing and mentioned having struck his side, with merely telling the lad to take a deep inspiration, and merely pressing his side with his hand, he would not, perhaps, have understood the case; but by exposing the patient's chest, and standing by to make observations while blood was taken from the arm, he came to a knowledge of the effect of air blowing upon the patient: and had he not been acutely alive to this characteristic mark, had he not known that this was at least as peculiar to the disease as the effect of the attempt at swallowing fluids, he would have allowed it to pass unheeded, and might not, until the next day, been informed that the patient had manifested a dread of liquids. He, however, at once saw the nature of the disease, and then ascertained the effect of an attempt at taking fluids into the stomach, merely to corroborate the justness of his opinion. The effect of the cold air, etc., even that of a fly settling suddenly upon the skin, of a sudden strong light, the least agitation of the bed or bed-clothes, very much resembles that produced on us all, upon stepping into a cold-bath. A sudden and involuntary inspiration is made, followed by several

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with comparatively little reluctance or difficulty, and that fluids alone excite these horrible spasms, from being brought into more extensive and intimate conduct with the inflamed and irritable surface.—W. Y.

[1] This effect on the diaphragm is produced by sympathy with the membrane lining the pharynx and larynx, which, in this disease, is in a state of extreme irritability. There is nothing like it in the dog, because the functions of these parts are more simple. The intonations of the voice are in this quadruped, without comparison, more limited, and a supplementary mechanism is given for the production of the voice; while it is a law of nature, that where less work is to be performed, less energy and sensibility are bestowed.—W. Y.

shorter ones; and, in a case of hydrophobia, the muscles of the throat are, at the same time, violently contracted, so that the glottis violently closes, and the attempts of the diaphragm to descend, and of the muscles of the chest to elevate the ribs, are frustrated from moment to moment. The closure of the glottis, however, is not continuous, but alternates with relaxations of the muscles, so that a succession of sobs takes place. These convulsive actions of the muscles of the glottis, and indeed of the throat in general, are dreadfully violent. Thus the patient is not merely distressed with the horrid feeling which causes him, first suddenly to inspire, and then to sob, and with the agony of the successive interruptions to breathing, but with actual violent pain in the convulsed muscles. These acted so violently, that his head was drawn down towards the chest at the moment of sobbing, and the front of the neck became rigid and furrowed by the tension of the fibres beneath the skin; and I observed him, at these moments, press against the lower jaw with the inside of the thumb and fore-finger, for the purpose of preventing its forcible descent. The attempt at swallowing, and the sight of liquids, produce only these very same effects; and since, from mere inflammation of the pharynx and surrounding parts, the muscles of deglutition are sometimes thrown into violent spasms, and the suffering from this source is so great, that even the offer of any thing to be swallowed (and, of course, it is fluids only which are offered, on account of their being more easy to swallow), they produce the same effects even in a mere nervous state of the system. From a groundless apprehension of the disease the same circumstances may occur. It is certain, indeed, that many cases of these two descriptions have been mistaken for hydrophobia; but, in the mere inflammation of the organs of deglutition, the other—the great symptom—the extreme sensibility of the surface to the sudden impression of air, etc., is, of course, not present. Nor is it present in mere nervous irritability of those organs. When the spurious hydrophobia arises from mere apprehension of the disease, the fear of swallowing only is complained of, as it is this which is vulgarly known as the chief characteristic of the disease; and there is no morbid irritability of the surface to the impression of air. Indeed, there is a mere inability to swallow, without that sudden catching of the breath which I have described. There is also in this disease a *general* morbid irritability, so that the patient is, from time to time, in a violent passion, bordering on frenzy; he is, perhaps, abusive, and even attempts to injure those about him; but in a moment again is calm, and apologises for his conduct, as this boy actually

did[1]. The degree of passion probably depends, in some measure, upon the natural temper : the rage of this boy was ungovernable; and I learnt that he was always a very violent and cruel fellow[2]. There is also a general anguish of the mind : he is the subject of extreme alarm and suspicion, and the countenance of this boy fully expressed this[3].

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[1] The general morbid irritability is plain enough in the dog. He is incessantly in action, making and unmaking his bed twenty times in an hour; starting at every sound ; in the furious stage, darting at every object within his reach ; tearing to pieces his rug or bed; demolishing all the wood-work at which he can get, taking offence at the slightest provocation ; and howling every moment. A dog in the mild stage of the disease is frequently shifting his posture ; in the furious stage, he is truly an object of terror. The dog that is naturally mild and tractable, will possibly fly fiercely at strangers; but he respects those to whom he has been accustomed, or if, led away for a moment by the irresistible propensity to bite, he mumbles or wounds the hand or foot of his master, he immediately crouches at his feet, and seems to ask pardon.—W. Y.

[2] In the first volume of THE VETERINARIAN, page 29, is a commentary on this :—"The desire to do mischief depends much on his previous disposition: it often proceeds not beyond an occasional snap, and then only when purposely irritated. But with the fighting-dog the scene is terrific: he springs to the end of his chain ; he darts with ferocity at some object which he conceives to be within his reach, and is eagerly employed in destroying every thing around him. If he escapes, he will diligently and perseveringly seek his prey ; and will overcome every obstacle to effect his purpose."

Within the last three months we have seen more than sixty cases of rabies in the dog. Several of them were fighting-dogs, and a great majority had been bitten by those ferocious and useless animals the bull-dog, or the bull-terrier. The poor fellow whose case is here recorded was bitten by a strange terrier. It is high time that the legislature should interfere to remove this insufferable nuisance. These sinks of iniquity, the dog-pits, could surely be put down by law ; and a heavy tax, and rigorously exacted, on every dog of this description, or wilfully used for the purpose of fighting, would reform the morals and save the lives of many of his majesty's subjects.—W. Y.

[3] "The earliest symptoms of madness in the dog are sullenness—a steadfast gaze, expressing suspicion, but when directed on the master soon clearing up, and followed by some action indicating affection."—VETERINARIAN, vol. i, p. 29.

On my seeing him the second time, which was on the Friday, about two hours before he died, he unfortunately mistook me for the gentleman who had raised the blister upon his breast, and he instantly fell into the most violent passion, threatening me dreadfully, attempting to get out of bed for the purpose of attacking me, tossing himself about, gnashing his teeth, and at the same time, evidently suffering indescribable anguish. His countenance bore, at the moment of which I am speaking, such an impression of rage and despair, that he reminded me forcibly of the pictures of persons tormented in the infernal regions. Patients not merely apologise afterwards for their violence, but frequently request by-standers to get out of their way, or to restrain them lest any one should be injured. They will, in the true disease, generally make, too, the greatest possible efforts to overcome the difficulty of swallowing; and although they many times put the cup from their lips, their courage failing after they have promised to attempt to swallow, they will frequently at last, as in this case, by great effort, open the mouth, throw the head back, and gulp down considerable draughts of fluid in violent haste, even in the midst of their greatest difficulty of swallowing. The patient showed the common symptom of extreme suspicion: whenever the door was open he looked anxiously forward, and showed the greatest aversion to every new comer. There is sometimes even a little delusion in these cases: patients will fancy they see a mad animal in the room, or insects crawling about them[1]; and a patient of Dr. Marcet's complained of an intolerable stench.

Before the Thursday on which the disease distinctly showed itself, it appeared that premonitory symptoms existed for three or four days. Usually, I believe, there are symptoms of weariness, general indisposition, dizziness, chills, and flushes, sometimes a pain has been felt in the bitten part. I think it very possible, from an occurrence which happened in my own practice, that these symptoms may go no further; that the disease, if I may so speak, may go off. Two little girls, standing at their father's door, were bitten by the same dog; a strange dog passing snapped at both of them, and bit them both in the face. She

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[1] ——— "He starts up, and eagerly gazes at some real or imaginary object; he traces the fancied path of something floating around him; he fixes his eye intently on some spot of the wall or partition; he suddenly plunges at it; his eyes then close and his head droops; in an instant he starts and gazes wildly around. The voice of his master recalls him from this delirium; he acknowledges him, and endeavours to fondle on him; but in a moment he is wandering again."—VETERINARIAN, vol. i, p. 30.

who was bitten the second, became hydrophobic and died. The other, at exactly the same time, experienced the same premonitory symptoms as her sister, heaviness, and general indisposition; but they all went off. We know that, in persons who have been exposed to the contagion of typhus fever and plague, a very slight attack sometimes takes place; so slight and short, that doubts might be entertained as to the nature of the disease. I had a friend who passed through a pestilential street in Constantinople, and afterwards visited a friend who was in perfect health, and in a part not exposed to danger. In a short time, he felt ill for a certain number of hours, but was well again the next day; his friend, however, became equally ill, grew worse, and died. In inoculating the vaccine or small-pox virus, we sometimes see a very slight and imperfect form of either disease; gonorrhœa also is, frequently, after exposure to its cause, most slight and temporary[1].

The duration of the disease, when distinctly formed, generally varies from rather less than twenty-four hours, to six or seven days[2]. I have had two patients with it, both little girls, and each died in less than twenty-four hours: the present patient died in rather less than six-and-thirty. The difference does not depend upon age, because two American cases are recorded, the one of a person under four, the other of a person seventy-three years old, who each lived six or seven days. The greater number, however, die on the second, third, or, at the latest, the fourth day. The

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[1] I am enabled to confirm this to its fullest extent. In seven or eight instances I have witnessed the evident early symptoms of rabies: the dog has been irritable, the eyes have been brilliant and fierce, spasms have stolen over the face, the bark has been changed, the lower jaw has been a little dependent, but the disease has "gone off," sometimes by bleeding and physicking, sometimes without any medical treatment. I inoculated a dog in January with the rabid virus. Seven weeks afterwards, I was certain, from the symptoms that he exhibited, that he was becoming rabid. I inoculated another dog from him; and then purposely left him to his fate. All gradually went off in two or three days, except the peculiar indecision of motion. The dog was continually staggering and falling about—he often made two or three ineffectual efforts to seize his food before he could accomplish his object: chorea soon combined with this, and the dog died, at the expiration of a fortnight, a perfect skeleton. The medulla oblongata was evidently softened.—W. Y.

[2] The duration of the disease in the dog is from four to six days.—W. Y.

suddenness of the present death was nothing more than has been frequently observed. Patients sink, in general, at last very rapidly; and often die before it is expected. Some time before this patient died, his feebleness was found to be extreme, notwithstanding the great excitement under which he appeared to labour, and, I presume, that the suddenness of his death arose, in a great measure, from the extraordinary violence which he had not long before manifested, in dashing from his bed, and driving all the by-standers from the room. You will also recollect, that, during the ten minutes before his death, the countenance had undergone a considerable change; had become livid and congested, and that the temporal artery could scarcely be felt.

The cause of the disease in the human subject has always, probably, been the morbid secretion from the mouth of a rabid animal, either of the dog or cat kind. I do not know that it is proved whether the poison resides in the saliva itself, or in the mucus of the mouth; nor do I know that the disease has ever been produced by the blood or any other fluids than those of the mouth[1]. It has been ascertained by Magendie, that the fluids from the mouth of a human being will produce it in a dog; and I believe that the fluid will not produce the disease in brute or man, unless a wound or abrasion of the surface exists. Celius Aurelianus tells of a woman who had the disease after biting her threads in mending a garment that had been torn by a mad dog; but if it be meant that she had no abrasion of the lips or fingers, the story is calculated to remind one of Baron Munchausen's cloak, which itself became mad in the wardrobe, after having been torn by a rabid dog. In this patient, the period which elapsed after the communication of the poison, was probably about three or four months; the average time, I believe, is from six weeks to three months. It has been said sometimes to take place in six or seven days, sometimes not for nine or nineteen months; and in one case, we are told, that it did not occur for twelve years; so that some think this case, related by Dr. Bardsley, of Manchester, spontaneous; others suppose it to be

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[1] I never transfused the blood of a rabid dog into the veins of a healthy one; but I have frequently, and without effect, inoculated with the blood. Perhaps the fearlessness and impunity with which I have opened very numerous rabid animals, with my hands not always sound, may be admitted as proofs that the virus does not reside in any other fluids but those of the mouth: and the power of the virus of the saliva seems to die with the animal, for I have never been able to produce rabies by inoculation with the saliva of a dead dog.—W. Y.

spurious. Dr. Parry thinks the shortest well-recorded period is twenty-three days; and I believe it rarely extends to more than nine months. The same periods have been observed in the case of dogs. When Lord Fitzwilliam's hounds were bitten, the intervals varied from six weeks to six months[1]. In spurious cases of the disease from mere fear, the interval is frequently very short. In that mentioned by Celius Aurelianus, the woman became hydrophobic only three days after biting her threads. Happily, most persons that are bitten escape. John Hunter mentions the circumstance of twenty-one persons having been bitten, and yet one only caught the disease, although no cautions were taken to prevent it. Dr. Vaughan, the father, I believe, of Sir Henry Halford, mentions an instance of thirty-one persons having been bitten, of whom only one caught the disease, although some did nothing, and the rest may be well said to have done no more, as a part of them merely took the "Ormskirk medicine," and the rest a dip in the sea. Much depends upon the part which is bitten; for if the bite be inflicted upon a naked part, such as the face or hand, the disease is infinitely more likely to occur than if inflicted through the clothes, which, of course, wipe the teeth in their passage to the body. Dr. Parry mentions several sheep and dogs bitten, not one amongst the former of which took it, and of the latter only two, one of which two, I may mention, was bitten just before, and the other just after all the sheep[2]. I believe that sheep will take the disease; I have myself seen it in a cow which was bitten by a dog, but I do not know that it originates, *de novo*, in any but an animal of the dog or cat kind. In these, it and its poison will certainly form without communication with an individual already labouring under the disease[3].

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[1] This account is very correct. I have never seen a case in which the disease occurred in the dog in less than seventeen days after the bite. I have known the time to be protracted to the expiration of the seventh month. I should take the average time to be five or six weeks.—W. Y.

[2] "The virus does not appear to have the same effect on all animals. Almost every dog that is bitten by one that is rabid becomes rabid. The majority of horses inoculated with the virus perish. Cattle have more chance. The skin is loose, and less easily penetrated. A full half of those that were seized by a mad dog would escape. With sheep the bite is even less dangerous. The tooth has, perhaps, been cleaned in its passage through the wool. Not more than one in three that had been attacked by a rabid dog would be affected."—VETERINARIAN, vol. i, p. 281.

[3] Indeed! I respectfully demand of Dr. Elliotson the proof

It is necessary to remember, that we have numerous instances of dogs imparting the disease to human beings at a time when there was no reason to believe the dogs mad; when they bit with a cause, that is, on account of being vexed, or have merely licked an abraded or cracked portion of the skin in fondness; and that sometime afterwards, perhaps even after the person so bitten or licked has gone rabid, the disease has appeared in the animal; and on this account, I think that every dog to which the least suspicion attaches, ought to be instantly destroyed[1].

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of this. While rabies is acknowledged to be produced by inoculation alone in every other animal, I demand some proof of its ever being spontaneous in the dog or the cat. I ask for one authenticated instance of it. My experience cannot afford it. Of many hundred cases of rabies that have come under my cognizance, the inoculation was proved in the great majority, and was not impossible, so far as I could learn, in any. I ask for one authenticated case of heat, thirst, putrid meat, disease or any other cause, save inoculation, having produced rabies in the dog or cat. Medical men are interested, and the country is interested in this question. If it be propagated from dog to dog, we have, to a very considerable extent, the means of prevention in our power; and the legislature will, ere long, assist us in limiting the ravages of the disease: if it be produced by other causes, I anxiously ask, what are they; and I fear that we must continue to be exposed to the alarm and danger that now annoy us. I respectfully challenge discussion on this most important point.—W. Y.

[1] Surely this cannot be correct. I can suppose that the virus may remain for a long period dormant in the wound, and that at length, from having attracted or assimilated to itself elements from the fluids that circulate around it, or from its long-continued presence having rendered the tissue or nervous fibril on which it lay more susceptible of impression, the constitution may become affected, and the disease be recognizable and speedily run its course; but that several weeks, or even months, shall pass on after the constitution has become affected and the secretions vitiated, and yet the disease shall not be cognizable by a single symptom, is to me perfectly new, and pregnant with alarm and with horror. Here, again, I call for proof.

My reading may be comparatively limited. I am aware of one case, although I cannot at this moment recollect my authority, but it is a case which often preys upon my mind, and involves me in occasional unpleasantness, from the seemingly unnecessarily minute inquiries which I feel myself compelled to

I, myself, almost dread to play with *any* dog, after the horrid scenes of hydrophobia which I have so often witnessed, and which are sufficient to make any one think it unjustifiable to keep a single dog that is not indispensably useful.

Some authors have asserted, that, when communicated by a cat, the disease is of a different character; that there is merely tremor, agitation, with great restlessness, rapidity of pulse, and extreme debility, little or no difficulty of swallowing, and little morbid sensibility of the surface. I certainly saw an instance of this kind in the hospital four years ago: an individual had been bitten six weeks previously by a strange cat, which appeared to be mad. He had forgotten the circumstance, but he was in this state of agitation, and died in two days. However, cases of the most marked and regular *hydrophobia* occur from the bites of cats.

Perhaps you will be surprised when I tell you that some persons actually doubt the existence of this disease, ascribing the whole to fear. Yet you see it is as decided and distinct in its character as any disease in the nosology; it has arisen also often in children who never heard of the disease, and frequently in persons who had entirely forgotten having been bitten: I have seen it in children. This boy denied having received any bite, and

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make. A boy was bitten by a dog. Ten days afterwards this dog exhibited symptoms of rabies, and on the fourteenth day died. No one dreamed of danger attaching to the boy, but he became hydrophobous, and died. Here was an instance of rabies being communicated ten days before the symptoms of that disease were recognised. It exemplifies one of the sad disadvantages under which the veterinary practitioner labours. His patients cannot tell him the seat of pain, or its degree, or even its existence. This animal might have felt, for many a day, the lassitude and anxiety which are often the precursors of hydrophobia in the human being, showing that the constitution was become affected by the virus, and perhaps sufficiently affected to vitiate the salivary discharge. I can suppose it possible that this had existed ten days before the malady was recognised, although, by the careful observer, it might have been detected some days before. I can suppose this possible; and so far as my limited reading goes, this case stands alone, supported by any authority: but when Dr. Elliotson tells us that "we have numerous instances of dogs imparting the disease to human beings, at a time when there was no reason to believe the dogs mad, and that sometime afterwards, perhaps even after the person so bitten or licked has become rabid, the disease has appeared in the animal," I feel myself bound to call upon him for the proof of this; for, if the state-

seemed quite indifferent on the matter. A case occurred to Mr. Godrich, of the Fulham Road, in which the patient, an old man, died after having received a bite, and exhibited all the characters of the disease, and not for one moment during its continuance was he aware of the nature of his complaint. An attempt at proof has been made by one surgeon inoculating himself with the slaver of a rabid dog; but this escape, you will see, was nothing more than the occurrence of a common fact, and proved nothing. If he were to inoculate himself again, and twenty of his relations, I should be happy to know the result. You will remember that Desgenettes inoculated the plague with impunity, and yet he saw quite enough, independently of this, to convince him that its contagiousness was true. Dr. White inoculated himself with the matter of plague, convinced that it was not contagious, and fell a victim to the disease. Two students of Paris were convinced that syphilis was not contagious, and so each inoculated himself, and had so trimming a disease for his pains, that one of them actually committed suicide in despair.

With respect to *treatment*, it may be very well to wash the part thoroughly with a solution of the chloride of soda or lime; it may be very well to apply cupping-glasses at first; but I confess I should not be satisfied unless I removed the whole part bitten, even should this cost a limb. Those drugs which have been thought preventives, have acquired their reputation solely from the disease occurring comparatively so seldom after the infliction of bites by rabid animals; unless, indeed, the *guaco* be not an exception to this. The guaco must, indeed, be confessed to have failed to cure in this instance, though we are not justified in saying that it will not prevent. The cow-pock will not cure the small-pox; but in the larger number of cases it prevents that complaint, and where it does not prevent, in the greater number of cases it renders the latter much milder. There is no reasoning on these points: experience only can determine. Moreover, although the guaco failed, those gentlemen who attended closely to the case, felt satisfied that the patient experienced, at first, deeided temporary relief after every dose. Mr. Cæsar Hawkin, also informed me that he exhibited the remedy to a rabid dogs and that a decided intermission of the symptoms, although they had been very violent, took place for a number of hours[1]. Still,

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ment be true, it would not only be "unjustifiable to keep a single dog that is not indispensably useful," but we shall begin to view the whole canine race, notwithstanding their sagacity and fidelity, with aversion and horror.—W. Y.

[1] I was present at this experiment of Mr. Cæsar Hawkins.

however, it is to be remembered that remissions, and even intermissions, have occasionally been observed in the disease, both when nothing has been done, and when various other remedies have been given. I must here express my gratification at the conduct of Mr. Cæsar Hawkins in supplying us with some extract which he had in his possession after the juice sent from the College was exhausted. The article is very scarce. Attached to another school, and himself engaged in experiments with the remedy, he showed no desire to keep the chance of successful investigation to himself, but the desire of a man of science and benevolence to further it, whosoever might reap the credit. The close attention of the students both night and day to the case in furthering the exertions of Dr. Roots, who visited the patient early in the morning, at noon, and at night, was also in the highest degree praiseworthy. They did so at some personal risk, for the boy, in his rage, more than once attempted to bite, to say nothing of his general violence. Some had his saliva on their hands, and one, I believe, got it in his eye: even the gentleman who opened the body was unfortunate enough to wound himself; and I saw the wrist of the sister of the ward bleeding, so severely was it scratched by the boy in his efforts to prevent her from administering an injection.

The muscles of the tongue and lower jaw of the dog were nearly paralysed, and the breathing was accompanied by a hoarse and grating sound. The true rabid howl was frequently uttered, and the dog was restless to a very great degree. One dose was given (about half an ounce of the expressed juice of the guaco) in the afternoon, and the second in the evening, with some slight relief of the symptoms; but, after the third dose, on the following morning, the change was most extraordinary. The dog recovered to a very considerable degree the use of the jaw, and could not only masticate the food when put into his mouth, but could with tolerable ease pick it from the floor: the howl ceased, and the restlessness disappeared. I had witnessed much mitigation of symptoms from the belladonna, alisma plantago, and scutellaria, but nothing to this extent. I was surprised and pleased, and almost began to fancy, that at length the grand specific was discovered. The medicine was continued during the day, but on the following morning the dog was found nearly paralysed all over, and died. The remission of the symptoms was very extraordinary, and the medicine deserves farther trial. Mr. Hawkins will doubtless favour the medical world with a detailed account of the experiment.

The post-mortem examination threw no light upon the disease, nor could it be expected to do so[1]. The affection is one evidently of the nervous system, and chiefly, it would be supposed, of that part of it which is connected with the organs of deglutition and respiration, and in the secretory apparatus of the mouth; and one, I think, evidently not of necessity inflammatory, though

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[1] It is somewhat singular that the post-mortem appearances should be represented as so vague and uncertain in the human being, while in the dog they are so decisive. I would here beg leave to refer Dr. Elliotson, and my readers, to the account of this matter in the VETERINARIAN, vol. i, p. 62. In the present case, however, the examination after death did "throw" some "light on the disease." The medulla oblongata, which or its membranes I have always found affected in the dog, was rather softer than usual—the cardiac half of the stomach was redder than usual, and *the larynx and the adjoining parts were in a state of congestion.* I confess that I do not know what more any one would wish to find. They are precisely the characteristic morbid appearances of rabies. The truth of the matter, I believe, is, that medical men have been so long accustomed to persuade themselves that examinations after death can throw no light on the nature of this dreadful disease, that they endeavour to explain the morbid changes which do force themselves upon them in any other way than as being illustrative of this malady. "Softening of the medulla oblongata," "redness of the cardiac portion of the stomach," and "congestion of the larynx and the parts adjoining," what could be more satisfactory? It is pleasing to have an opinion, which I believe I was one of the first to hazard, confirmed to a considerable extent by so high an authority at that of Dr. Elliotson. I have ventured to say (VETERINARIAN, vol. i, p. 153) that "rabies is an affection of the respiratory system of nerves, or those that are employed in the instinctive and involuntary actions connected with respiration, and which arise from the medulla oblongata." Dr. Elliotson states, "the affection is one evidently of the nervous system, and chiefly, it would be supposed, of that part of it which is connected with the organs of deglutition and respiration, and in the secretory apparatus of the mouth."

The illustration was as follows: "They (the respiratory nerves) are the portio dura of the seventh pair, distributed over the face; the glosso-pharyngeus, which supplies the pharynx and the tongue; the par vagum, wandering to the pharynx, the larynx, the heart, the lungs, and the stomach; the recurrent, ramifying on the muscles of the larynx, and the membrane of the glottis; and

marks of inflammation have been found at the tuber annulare, medulla oblongata, and various other parts, and sometimes red patches on the stomach and in the air-passages. In the present case, the medulla oblongata was rather softer than usual, and so were the corpora striata, and the thalami nervorum opticorum, but the middle lobes were likewise softened. The phrenic nerve and

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the spinal-accessory given to the neck and shoulder, and reaching even to the loins.

"The twitchings and contraction of the eyelids, the strabismus, the spasms of the cheek, and lips, and face, and the paralysis of the muscles of the lower jaw, sufficiently prove an affection of the portio dura.

"The protrusion of the tongue, the enlargement of the sublingual and other glands, the inability to swallow, and the alteration of the voice, implicate the glosso-pharyngeus.

"The increased circulation, the laborious respiration, the peculiar inflammation of the pleura, and the constant and often intense inflammation of the stomach, are attributable to the par vagum.

"The involuntary barking, the husky grating inspiration, the frequent inflammation of the trachea, the uniform inflammation of some part of the glottis in the quadruped; and the dreadful excitation of the membrane of the glottis, with all the horrors of hydrophobia in the human being, testify that the recurrent nerve has not escaped: while the hurried and uncertain action of the fore extremities, and the palsy of the region of the loins, are clearly to be traced to the spinal-accessory.

"These nerves anastomose freely with the cerebral nerves, therefore cerebral affection soon occurs. There is a state of general and extreme excitation, a very peculiar wandering and delirium, and, in some animals, fits of savage and uncontrolable ferocity.

"They likewise unite and blend with the ganglionic nerves, and thence proceeds altered secretion—a morbid secretion of the gastric juice occasioning the strangely perverted appetite of the dog; and a still more depraved secretion of the saliva, converting that bland and innocuous fluid into the direst poison."

To this it might have been added, that, although the phrenic nerve, which supplies the diaphragm, has its origin from the fourth cervical nerve, it is very intimately connected with those from the medulla oblongata. Not far distant from its root it gives branches to the par vagum, and to the linguelis medius, and likewise, which is of most importance, as connecting the action of the diaphragm with certain affections of the larynx, a branch is given off from it to that organ, after which it has communication with no

par vagum appeared perfectly healthy, as did the whole of the spinal marrow. The cardiac half of the stomach was redder than usual, but not redder than we continually see it after affections of the respiratory organs. The œsophagus was quite healthy. The larynx and adjoining parts, and the whole of the lungs, were in a state of congestion, and the corpse was that of one who died after struggling. The hands were clenched, and the lips turgid and blue. The heart was strongly contracted. The spasmodic attacks which took place were quite sufficient to cause the congestion observed in these parts, though, were they not so, the congestion would not explain the peculiar symptoms. We cannot hope to discover the nature of the disease by morbid anatomy, but by careful investigation of the symptoms during life. Whatever morbid anatomy can teach us of the nature of any disease, we are bound to learn. We are bound to note every fact in morbid anatomy; but observation during life of the symptoms, history, and causes of diseases, are the chief part of the basis of pathology.

THE VETERINARIAN, JUNE 1, 1830.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

We have received so many letters respecting the threatened action against the Veterinary College for bad shoeing, that we have deemed it proper to make all the inquiry in our power respecting it. Whatever concerns that institution is public property, and the profession and the public have an undoubted right to be made

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other part, but the main trunk descends to the diaphragm, and expands itself completely on that muscle. Mr. C. Bell, to whom we are indebted for the only satisfactory explication of the nervous system, is of opinion that the phrenic nerve, though coming out with the cervical nerves, does in all probability take its origin from the same portion of the medulla spinalis with the accessory nerve.

I now quit the subject, with many thanks to Dr. Elliotson for a most interesting and valuable paper. For the freedom of my remarks I make no apology; he will not be displeased to see the humblest labourer working in such a field. The readers of THE VETERINARIAN, I trust, will not be displeased with the unusual length of this article: I eagerly availed myself of such an opportunity to contrast the nature and symptoms of rabies in the human subject and the brute.

acquainted with all its transactions. If our inquiries have not been satisfactory to ourselves, and the result may not be so to our readers, the fault rests not with us.

Messrs. W. Pontifex and Son were subscribers to the Veterinary College. One of their horses was sent to be shod there. Nothing unusual was perceived when he was brought out of the College; but, on going a journey, he had not travelled many miles before he was lame behind. The lameness increased, and the horse fell, and was severely injured. A country practitioner, on taking off the shoe, attributed the lameness and the fall to what he called infamous shoeing. A practitioner in town was afterwards consulted, who gave the same opinion; and Messrs. Pontifex demanded compensation for the injury and consequent expenses. Mr. Coleman, acting under the direction of the governors, resisted the claim; and in consequence of this resistance the notice of action was withdrawn.

We have seen the shoes. The workmanship was rude and unfinished to a degree that ought not to have existed in a public institution; but the principal ground of complaint, so far as we could understand it, was, that on the inside of the lame foot the nail-holes were most irregularly and improperly punched. The first nail-hole, on the foot side of the shoe, was twice as near the inner as the outer edge, and the others were, as nearly as possible, in the centre; so that it seemed difficult to drive the nails without pressing on the laminæ, or even puncturing the sole. The reason for this manner of punching we cannot divine. We are inclined to think that it must have been the effect of carelessness, and inexcuseable carelessness too. Yet we cannot bring ourselves to believe that there was just ground for action. The horse was not lame when he went from the College; he became lame on the road, possibly—probably, but not necessarily, from this strangely constructed shoe. He fell. He was not likely to fall because he was lame behind; at least, there was no necessary connexion here between cause and effect. The fall was possibly, probably, accidental.

As a private practitioner Mr. Coleman would have been justified in resisting an action brought on such grounds, and would

have successfully resisted it; and not for the reasons which the complainants state, and we think improperly and uncandidly, in a letter to the governors, "because they would come in contact with that sort of evidence which is usually brought forward on such occasions, and because they were of opinion that they would meet such testimony" (*Hippiatrist*, No. 46, p. 153). This is an imputation on the profession (for by the opinion of veterinary practitioners, given on oath, would the case have been decided), which it does not deserve. We indignantly repel it; and if the first application, or notice, or threat of action, was made in this spirit, or if Mr. Coleman had reason to suppose that there was an enemy at the bottom of the affair, who was secretly prompting every step, and would take unfair advantage even of honourable concession, we do not blame him, although there was "the total absence of all explanation and apology."

Mr. Coleman had a duty to discharge to the College over which he presided; he had one more imperious to discharge to the profession. If the head of the profession had cowardly compromised such an action, what would private practitioners have had to expect?

A forge is a necessary but a most annoying part of our establishment. We cannot keep our practice together without it; but we gain little or nothing by it; and it exposes us to more complaints, often unfounded, but sometimes *apparently* just, from our employers, than any other part of our profession. We know from painful experience how difficult it is, from the peculiar construction of the foot, or the thinness of the crust, always to drive the nail safe and true; we know that there never was a workman, however skilful and careful he might be, who has not occasionally lamed a horse, and that without any fault of his; we know what mischief the slightest bearing on an unsuspected part will effect; and we, whom experience has made the best judges of the danger, often wonder that more horses are not lamed at our forges.

From proper and honourable responsibility we should not be disposed to shrink; but we confess that we are grateful to Mr. Coleman for resisting this action. Had he compromised it,

the circumstance would soon have been bruited abroad, and we should have been exposed to so many vexatious and unjust charges that prudence and peace of mind would have counselled us to shut up our forges altogether.

We are not sorry, however, that the case has occurred; for it may possibly rouse the professors of the Veterinary College to a sadly neglected part of their duty. Had either of them been in the habit of superintending the forge; had the practical management of it been regularly taught to the pupils, shoes of such rude workmanship and strange construction could never have been used. In other veterinary schools the students are, at certain times, taken into the forge, and made to go through the different processes. They are taught, at least, to take off and to put on the shoe, and to pare out the foot, and to obtain the perfect use of the drawing knife, and adroitly to perform many operations on the foot,—acquirements advantageous to the town-practitioner, and indispensable with him who practises in the country. It is a portion of horse-surgery, ignorance of which will occasionally expose to inconvenience and disrepute. Is it taught at the college? Is it, in the slighest degree? Have either of the professors anything to do with the forge?

We conclude, then, with thanking Mr. Coleman for having refused to compromise this action, and by wishing that the annoyance to which he has been exposed, may rouse him to the discharge of a too-long-neglected portion of his duty.

We were somewhat puzzled a little while ago by a paragraph in "The Lancet." The reporter is describing what took place at a meeting of the College of Physicians. Two letters had been read. "The third was from a member of the Veterinary College, descriptive of some coloured drawings of certain morbid appearances in glanders in the horse, the ass, &c."

"A member of the Veterinary College!" "Who can this be?" thought we: "our old friend, Vines? He has announced a work on glanders, with coloured engravings, and we have for some time been anxiously expecting its publication. No! no! it cannot be him. We know him too well. He, we are convinced, would

feel that, when writing on a veterinary subject, common sense, courtesy, and interest, would induce him first to consult his brethren. If he submitted his productions to another tribunal, his good sense would tell him, that the natural conclusion would be, either that he did not think us competent, or that he was afraid to meet us. We will enquire about this: we will see if there is any one who, just at this point of time, when Mr. Vines's work is struggling for birth, is justly asserting a prior claim, or endeavouring to rob him of deserved commendation."

We enquired; and lo and behold! we found that it was Mr. Assistant Sewell, who, again forgetting that there were veterinary surgeons, and societies, and publications, or believing that we were really as ignorant as the faulty education of the College had a tendency to make us, had scorned to submit his lucubrations to our consideration, but had taken them to a more competent tribunal. However, we will not say another word about this; it would be perfectly useless; but we will relate the result of the affair, and we wish Mr. Sewell joy of it.

"Oh! it was Mr. Sewell," said a physician of no mean eminence, who had been present at the meeting; "but what he meant by bringing his cases of glanders before us, we could not tell. We knew nothing about them. He took some pains to explain the drawings; but we could make neither head nor tail of them." "*The Medical Gazette*" of the succeeding week afforded a complete illustration of this. Describing the plates, the writer says—"The first plate represented hepatization of the lungs of an ass, produced by inoculation from the suppurating hepatized lungs of a glandered horse, that being *one of the sources* of the disease called glanders. The second represented miliary tubercles resulting from inoculation with the matter of a suppurating tubercle of the lungs of a glandered horse, *another and a more common cause of glanders.*"

Review.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

Of Warranty, and the Defects constituting Unsoundness in Domestic Animals. By J. B. Huzard, *Jun.* V.S.

Much has been said on the subject of "Soundness;" yet all has not been said that so important a matter seems to demand; and nothing has yet been said concerning the opinions of our continental brethren.

The above is the title of a neat, and altogether a clever little work enough, on the subject, by young Huzard, the son of the Inspector Huzard; from which our present intention is, to present our readers with a few abbreviated extracts, such as are of a character to cast any light upon what has, of late, so engaged the attention of some of the best informed veterinarians of our own country.

"In commerce, of whatever description, disputes will occasionally arise, either regarding the conditions of sale, or the good or bad qualities of the merchandize. In respect to the latter, a purchaser who has been long in possession of an article, is expected to be perfectly acquainted with the condition of that article; while a buyer, who has had but a transitory inspection of it, or may even have made his purchase without seeing it at all, upon the faith of representations or pledges, subjects himself to deception from the knavery, or perhaps the improvidence of the vender."

"In the purchase of *animals*, in particular, it is that a person runs such risks. Often it turns out, that an animal, to appearance in a state of perfect soundness, harbours some vice or malady which the most practised eye, unaided by veterinary skill, cannot detect; nay, there are parallel circumstances in which the most skilful veterinarian is at a loss; and sometimes the vender even is ignorant of their existence, having himself been deceived: how much more likely, then, is that person to be beguiled who is neither a veterinarian nor a dealer, but simply a purchaser in want of the animal."

The Laws of Sale and Warranty in France

Run as follow:—

"Art. 1. The vender (providing he gives a warranty), is held responsible for all unapparent defects that may render the vended article unfit for the required purposes, or so diminish that fitness

that the purchaser, had he been aware of their existence, would not have bought it at all, or else not at so high a price.

"2. For self-apparent defects, such as the buyer could not fail to discover, the vender is not responsible.

"3. But for such as are not perceptible, even though he was ignorant of their existence himself, still is he amenable, unless stipulated that he would not hold himself chargeable with *any* warranty.

"4. In a case of false warranty, it is at the option of the purchaser either to return the article and claim back the price of it, or to retain it and claim the restitution of such proportion of the original cost as shall by judicious arbitration be awarded.

"5. If the vender possessed a knowledge of such defects, he is reponsible not only for the return of the price of the article, but for any damage or inconvenience sustained by the purchaser in consequence thereof.

"6. But if the vender was unconscious of them, he will be only liable to refund the price of the article, and reimburse the purchaser for any expenses attending the sale.

"7. If such defective article becomes lost in consequence of its defectiveness, the loss belongs to the vender, who will have to return the price paid for it, as well as make good other expenses incurred by it: should the loss, however, be the result of accident, it will remain chargeable to the account of the purchaser.

"8. Any action intended by the purchaser, in such cases as these, should be instituted with as little delay as the particular case demands, and as is consonant with the customs of the place.

"9. No such action will lie when the sale is one ordered by judicial authority."

On which laws M. Huzard remarks, that—"nothing can be plainer, more in accordance with nature, and better ordered, to protect the rights of the purchaser, than the first of them; he (the purchaser) cannot suffer *grievously*, unless it be through his own want of foresight, or through accidents not under the controul of human ordinances."

"No less just does it seem to make hidden defects pleas for return, than unjust to consider those which are apparent in the same light: this would be placing the vender at the mercy of the purchaser. The second article of the law is intended to counteract this, by clearly defining the rights of the purchaser."

In regard to the law (No. 8), that, where an action is intended, the interval should be as short as is consistent with the nature of the case, and the customs of the place of the judicial proceedings, it may, in certain cases, be difficult for the most experienced

practitioner to say, whether the interval of delay has been only such as the case admitted of; because the case may be one of that description which would lead him to doubt whether he ought to date its origin anterior or posterior to the sale; and, therefore, the clause, " consonant with the customs of the place," is added, in order to relieve the judge, in some measure, from the embarrassments of such an arbitration. When ordinary local usage cannot decide upon the question, " the wisdom of the judge" is the resource.

According to the law (No. 3), a vender may disengage himself from all responsibility incurred by warranty, providing he stipulated beforehand, *that he would not be amenable for defects of any description*, unless it be in the case of contagious maladies: and in regard to them, in order to guard the public against any dangers arising from the spread of glanders (in particular), it has long been enacted, that *no animal so infected, or even suspected to be so infected, shall be sold, or exposed for sale, under any circumstances whatever.*

PART SECOND.

Of the Defects and Maladies of Domestic Animals, which render them unsound; and of the Precautious to be taken in the examination of Animals suspected to labour under them.*

" Some persons have contended, that such defects and maladies were but few in number, since little could be concealed from competent judges, and it became every such purchaser to open his eyes. In answer to which (says M. Huzard) it may be said, 1st, that it is often in the power of the vender to impose upon even the veterinarian himself, and the most experienced dealer; 2dly, that in certain situations, such as fairs, where the bargain is made, time or opportunity is not afforded for sufficient trial."

" Other persons have taken up the position, that a warranty, be as full as it may, is still inadequate, in certain cases, to prevent deception; and that it would be better to dispense with it altogether, since, in that case, purchasers would take more precautions, be more fastidious, and be less deceived: hence the numerous disputes, so hurtful to commerce, would be diminished."

" Admitting, however, that these disputes are injurious to commerce, would not the state of uncertainty in which the purchaser would be left without such a thing as warranty at all, prove still more so? Is not warranty one of the grand means of facili-

* By which is meant, *returnable* to the vender.

tating such commerce? And, if differences have originated out of warranty, have they not almost always existed among dealers of low character?"

Such is the defence set up (and very properly set up) by Huzard in favour of the laws of warranty; were which abolished, there can exist no doubt in the mind of any one in the practice of horse-traffic that heavy inconveniences and grievances would be the result.

In determining what defects and maladies constitute unsoundness, M. Huzard tells us, that his aim is, to rightly adjust the balance between the vender and the purchaser. He takes law No. 1 as his principal guide and director; and he instructs us to refer to it in any and every case not particularized by him.

The first we find our attention called to, in horses, is one the French denominate "immobility;" which, according to our author's own avowal, is one of those "assemblages of symptoms that have in the art obtained special denominations, without the actual diseases from which they spring being known to us." And his account of those he classes under "immobility," is of too indefinite and unsatisfactory a nature to induce us to transcribe it: we shall, therefore, pass on to the next in succession; to

Crib-biting, Wind-sucking, Weaving, &c.

"If crib-biting is not a cause of indigestion, it is often a consequence of it: at times, such subjects have had organic disease in the alimentary canal. When such a habit has been long practised, the front borders of the incisive teeth become worn away; so that, in examining for age, this appearance at once strikes us. But when the teeth are not worn, as in the case of a wind-sucker *(l'animal qui tique en l'air)*, there is no discovering the vice without watching the animal for a length of time.

According to the French law (No. 1), a horse that is discovered to be a crib-biter after he is bought, is returnable to the vender, *providing he bears no evident marks of the habit upon his teeth;* for if such signs do *manifestly exist*, he is *not* held to be returnable in the eye of the law, because the defect or vice must or ought to have been *self-apparent* to the purchaser (according to law No. 2), and who, on such an occasion as this, could not plead ignorance, since he would hardly make the purchase without looking in the mouth to ascertain the age of the animal.

Viciousness or Restiveness.

"So far from a horse fulfilling the purposes for which he has been purchased, he may turn out to be, in a variety of ways,

even dangerous to make use of; in which case he is, without doubt, according to law (No. 1), returnable to the vender."

M. Huzard is of opinion, that restiveness has its origin, in most horses, in *defective vision:* an observation well deserving attention from us.

"But, supposing the animal is capable of the services for which he was purchased, still, the circumstance alone of his being vicious, renders him returnable; because it may lead to serious mischief."

"Even the case of a mare being so disposed during the season of her horsing comes under the same law, providing no warning be given of this evil propensity by the vender."

"It may happen, however, especially with timid horses, that they become restive from the unsuitable or harsh treatment of their new owners; or the case may prove an extremely hard one to decide, whether the evil existed before purchase or not. In such an example it would be prudent to place the horse, for a time, in the hands of some other disinterested party, under whose mild management the case might develop its veritable nature."

Lameness.

"Nothing oftener gives rise to contestation in horse-dealing than lameness. It matters not how much the lameness depreciates the animal, or to what extent deception has been practised: let us see, then, upon what the question of returnability for lameness really hinges.

"Any lameness perceptible at the time of sale, or that may arise posterior to the sale, cannot form a plea for return: that lameness alone comes within the pale of the law, the cause of which existed prior to sale, but which, itself, was not apparent at the moment the deal was made."

Taking this view of the subject (which is in perfect consonance with the present law in France), M. Huzard distinguishes five kinds of lamenesses.

"*The first kind* comprises lamenesses the consequences of contortions or over-actions of the joints or muscles, or of wounds; which are manifest enough at the time the animal first leaves the stable, but which, from work or exercise, gradually wear away. In such cases as these fraud is easily practised: but they all, evidently enough, demand a return. They are detected by alternating the states of action and repose."

[To be continued.]

VETERINARY MEDICAL SOCIETY.

MARCH 25, 1830.

Mr. HENDERSON *in the Chair.*

THE latter part of Mr. Goodwin's paper, being on Spavin, was taken into consideration.

Mr. *Goodwin* produced a case of spavin in a fine horse which had belonged to his Majesty, and which had cost 350 guineas at five years old. It had had curbs, and had been fired for them. Four or five years ago it had become stiff in its hind legs, and it was lamer on one than on the other; but, as the lameness went off after the horse had been ridden for a short time, no serious notice was taken of the case, and the disease was left to make such progress, that, when he was at length given up for treatment, he was past all cure. He was, however, blistered, and turned out; but when turned out, he became worse, and was, at length, destroyed. In the off-hock, in which there was the least lameness, there was no exostosis, no alteration of form in the joint, but ulceration of the synovial membrane with slight caries of the cuneiform bones.

In the near hock the disease had gone on to ulceration, and he could not, even with a chisel, separate the two cuneiform bones from each other, or from the cannon bone. In neither was there any heat, and no external appearance to indicate the seat of disease. Many horses were brought lame to every veterinary surgeon without any apparent cause of lameness. Coachmen and veterinary surgeons, too, were apt to fancy it in every place but the right: for his own part, if there were no circumstances to direct his attention elsewhere, he should be inclined to attribute a lameness before to the navicular joint, and behind to the hock, and to these cuneiform bones as forming a portion of the hock. He was inclined to think that extensive curbs, if not completely cured, were frequently followed by spavin.

Mr. *Boutal* confirmed this last assertion; he had repeatedly seen spavin following curb.

Mr. *Langworthy* asked, whether Mr. Goodwin considered this ulceration of the synovial membrane of the cuneiform bones to be the commencement of spavin, or whether the common exostosis might not exist without this.

Mr. *Goodwin* was aware that there might be exostosis about the top of the smaller metatarsals, which had nothing to do with this affection of the cuneiform bones. He had seen many enor-

mous spavins without the slightest lameness; but he thought spavin generally commenced between these two bones.

Mr. *Henderson* had seen horses with the largest spavins not at all lame.

Mr. *Goodwin*.—The fact is, that there are many diseases described under the same denomination. Almost every disease of the hock is termed spavin.

Mr. *Henderson* had seen a pony with large exostosis on the knee joint without the slightest lameness.

Mr. *Goodwin* imagined, that, although the disease were between the cuneiform bones, the ulceration would occasionally extend to all the bones of the hock, and finally produce exostosis. It was precisely the same with the navicular disease. The exostosis on the smaller metatarsal is comparatively of no consequence, and will never produce lameness equal to this affection of the cuneiform bones.

Mr. *Henderson*.—This proves the fallacy of a very prevalent opinion, that horses with enlarged hocks are necessarily unsound. He believed that eight out of ten were perfectly efficient.

Mr. *Lythe* said, that there were not three horses out of ten in which an enlargement of the hock might not be discovered, which some would call spavin.

Mr. *Boutal*.—Yet all men look with suspicion on a horse with enlargement of the hock.

Mr. *Henderson*.—The suspicion arises from the occasional but not uniform weakness or lameness connected with an enlarged hock.

Mr. *Boutal*.—A horse with enlarged hock may be sound to-day, and useless to-morrow.

Mr. *Goodwin* remarked, that, when he took up the subject of diseases of the joints, he did not intend to go regularly through them; but he wished to express his opinion on the important subject of navicular lameness, and to rectify some gross errors which, he thought, existed as to the nature of spavin. While at the Veterinary College, he learned that spavin was an exostosis of the bones of the hock, and some horses were lamed by it, and some were not. He had some horses in his stables with swellings as large as pigeons' eggs, and which were not lame; he had others dead lame behind, without any apparent change of structure. He had watched the disease while living, and he had examined the joint after death, and he had uniformly found the seat of disease to be where he had described it. This disease of the synovial membrane of the cuneiform bones had not been named by any one: it had been confounded with exostosis, because exostosis was an occasional consequence of it. His opinion was, that spavin did not commence with an enlargement of the hock, but

with lameness, from inflammation and ulceration of the synovial membrane. Exostosis was a subsequent affair. Common spavin, however, was in the commencement an exostosis. Over-exertion had produced inflammation in the substance between the metatarsals, and had packed the bones together: over-exertion was likewise the probable cause of the inflammation of the synovial membrane of the cuneiform bones.

Mr. *Slocombe* stated, that, in the late frost, a gentleman's horse fell in its journey to town. No lameness was perceived on that day, but on the second day it could scarcely move. There was no external swelling, but a slight heat could be perceived round one hock. He applied a stimulating embrocation, and the horse got better. The groom said, that it was a disease of the round bone. It was afterwards sent to the College, and Mr. Sewell pronounced it to be spavined; and, on being asked where the enlargement was, affirmed that spavin frequently existed without any enlargement of the hock.

Mr. *Youatt* lamented that the office which he held as registrar rendered it impossible for him to take any useful part in the debates of the Society: he could not, however, help interfering here. He did not think that justice had been done to one of the most important subjects that had lately come under consideration. The question had not been yet stated with sufficient clearness. Various diseases of the hock had been confounded under the name *spavin;* but, in his mind, there was as much difference between the common spavin (the bony union between the metatarsals and the exostosis frequently consequent on it), and ulceration of the synovial membrane of the cuneiform bones, as there was between the navicular joint disease and any other disorganization of the internal structure of the foot. They might be connected, but were perfectly distinct. They might run into each other; one might be the consequence of the other: or each alone might pursue its course, and produce permanent lameness. He could wish that the term spavin should be confined to that enlargement connected with the bony union of the metatarsals, which veterinary writers and horsemen had uniformly distinguished under that term; and that some other and appropriate name should be given to the inflammation and ulceration of the internal structure of the hock, and particularly of the cuneiform bones, which Mr. Goodwin had so excellently described. This distinction being made, he was much mistaken if the veterinary public would not soon acknowledge itself as much indebted to Mr. Goodwin for the discovery, or, at least, the elucidation of a frequent, and obscure, and unsuspected cause of lameness behind, as they will to Mr. J. Turner for the light he has thrown on as frequent, and obscure, and previously unsuspected cause of lameness before.

Mr. *Mavor* could not accede to Mr. Goodwin's account of this affection of the hock. He did not conceive it to be ulceration of the synovial membrane, but ossification of that part of the bone in connexion with the ligaments which connected these bones together.

Mr. *Goodwin* acknowledged that Mr. Turner was the person who first directed his attention to the subject of disease of the joints. He had, from his situation, opportunity, and he had endeavoured to profit by that opportunity, of observing the progress of numerous cases of affection of the navicular joint and of the hock, and of examining the morbid appearance which the parts exhibited after death; and, when he found abrasion, ulceration of so delicate a membrane as the synovial, and considered the extreme torture which it must have produced, he was at no loss to account for the lameness. He then referred to some specimens on the table, and clearly pointed out the seat of disease near the centre of the bones, removed from the ligaments, and not in the slightest degree affecting them.

Mr. *Langworthy* perfectly coincided with the views of the Secretary. He would have these diseases clearly distinguished from ach other. He offered his acknowledgments to Mr. Goodwin, and said that many difficulties would hereafter be removed from his mind on the subject of lameness.

Mr. *Mavor* related a case in which he had found not ulceration of the synovial membrane, but spiculæ of bone, in the ligaments.

Mr. *Henderson* thought that the process of ossification might extend to the ligaments; but, in the great majority of cases, the disease commenced with inflammation and abrasion of the synovial membrane, and near the centre of the bones.

Mr. *Goodwin* asked Mr. Mavor, if he had ever taken the trouble to trace out a fair case of navicular lameness, commencing with inflammation of the synovial membrane; then effusion, ulceration, proceeding from the membrane to the cartilage, and from the cartilage to the bones, and altogether becoming a spongy mass. The horse is lame before there is any disease externally; the external alteration of form is a consequence of the internal disease.

Mr. *Mavor* thought there was no analogy between the navicular and hock joints. In the one there is a single bone, in the other many bones: in the one case the injury occurred between a bone and a tendon; in the other, two bones are opposed to each other.

Mr. *Youatt*.—But one important analogy remains, and the most important of all—the bones in both joints are covered by a synovial membrane.

Mr. *Goodwin.*—In the diseases of all joints we witness nearly the same phenomena. In all, the disease commences in the synovial membrane, and will run on to caries. Did Mr. Mavor ever see a case in which the inflammation was confined to the ligaments; or had he seen the ligaments becoming osseous in consequence of inflammation?

Mr. *Langworthy* said, that the parts which were most sensible and vascular were most subject to inflammation. The synovial membrane was far more vascular and sensible than the ligaments of the joint. Mr. Goodwin had thrown much light on this subject; he could wish, however, that he had gone farther, and given us a more detailed account of the symptoms of the cuneiform bone lameness, and developed some successful mode of treatment.

Mr. *Goodwin* was proceeding to state that the lameness from external bony deposit generally subsided, or went off after the formation of the spavin; and that when the horse had been out a considerable time, it lessened or disappeared: but the lameness caused by this affection of the synovial membrane of the cuneiform bones increased with exercise, and the duration of the disease, when the usual time of the meeting having elapsed, the debate was adjourned, Mr. Woodin, remarking, when there was no external appearance of disease, the peculiar wearing of the toe might lead us to suspect the hock.

BOOKS RECEIVED FOR REVIEW.

ALCOCK's Lectures on Practical and Medical Surgery. *Burgess and Hill,* 1830.

Sur les Propriétés Nuisibles que les Fourrages peuveut acquirir pour différens animaux domestiques par des productions cryptogamiques, par A. Numan et L. Marchand. *Groningue,* 1830.

WE have a list of Errata too numerous, and which shall be given, and we trust not much increased, at the close of the volume.

TO CORRESPONDENTS.

MANY of our Correspondents will find an answer to their enquiries in the present Number.

To L., we decidedly say "No."

H. We have no concern with it, and know nothing about it.

Mr. ——, of W——. "We are quite aware."

Mr. C.'s Letter shall be returned if he pleases: he must feel, on reflection, that it is far too personal.

We must, in future, entreat those of our Correspondents to whom it may be convenient, to favour us with their Communications on or before the 15th of the month.

THE

VETERINARIAN.

VOL. III. JULY, 1830. No. 31.

ANATOMY OF THE HORSE.

[Continued from page 304.]

2.—ABDOMINAL REGION.

An intervening stratum of cellular substance attaches the abdominal portion of the panniculus carnosus to a glistening expansion of tendon, situated underneath it, which is the aponeurosis of the external oblique muscle. This cellular substance being removed, several white lines, marked upon the subjacent tendon, come into view. The principal of these is one which runs along the middle of the belly, extending from the ensiform cartilage to the pubes: it takes the name of *lineá alba;* and denotes the line of junction and demarcation between the abdominal muscles on one side and those of the other. About midway between its two terminations, this line has a perforation, the *umbilicus* or navel, through which passes the umbilical chord. At some short distance from the sides of the linea alba are two curved or waving lines, called the *lineæ semilunares:* they mark the line of union between the fleshy and tendinous fibres of the external oblique muscle. Traversing the interspaces between the linea alba and lineæ semilunares, at short intervals from one another, are several transverse lines, named the *lineæ transversales:* they are produced (as will hereafter be discovered) by the tendinous intersections across the *straight* muscles; and are, in some subjects, but obscurely marked.

There are four pairs of *abdominal muscles:*—two pairs of *oblique* muscles; one pair of *transverse;* and one pair of *straight* muscles. Three of these pairs are ranged in strata, one upon another, and have sheets of tendon connected with them, which take the name of *aponeuroses.*

OBLIQUUS EXTERNUS ABDOMINIS.—*(Costo-abdominalis.)*

Situation.—Upon the inferior and lateral parts of the belly.

Figure.—Broad, thin; quadrilateral.

Attachment.—Anteriorly, by fleshy digitations, to the posterior borders of the fourteen hinder ribs, below their middles; posteriorly, by tendinous fibres, to the two anterior thirds of the crista ilei, and to the anterior spinous process; superiorly, to the faschia lumborum; and inwardly, through the medium of its tendon, to the linea alba, throughout its entire extent.

Relations.—Externally, with the panniculus carnosus and pectoralis magnus; internally, with the hinder ribs and their cartilages, and with the obliquus internus and rectus; anteriorly, it digitates with the serratus magnus.

Direction.—Oblique: from before, backward; and from above, downward. The anterior fibres deviate but little from the horizontal line; in regard to the others, their obliquity increases from before backwards.

Structure.—The entire muscle is covered by a dense tendinous expansion, named the *aponeurosis of the internal oblique muscle,* which adheres to the fleshy parts through the connection of a delicate cellular tissue, intercepted in places by small slips of tendon. At the linea semilunaris, however, where the tendon commences, the aponeurosis contracts an almost inseparable adhesion to it, accompanying it, thus intimately united, to its termination. Towards the flank, the aponeurosis seems to degenerate into cellular texture.

The superior and outer parts of the muscle itself are fleshy and digitated; the inferior and inner parts are tendinous and aponeurotic. The fleshy part grows broader, but becomes thinner in substance, posteriorly.

Remarks.—In the flank, the tendon splits into two portions, which separate, having a triangular space or opening between them, whose cavity is obscured with fat and cellular substance. One division of the tendon is a strong band, which is extended and expanded upon the inner side of the thigh; the other portion runs to the ileum, and thence is continued across to the pubes: corresponding in its arrangement and structure to the part called *Poupart's ligament* in human anatomy, though by no means well defined in the horse. The triangular aperture between these divisions of tendon, which opens into a sort of pouch, closed by the union of these tendons on the outer side, but open towards the pubes, is the *abdominal ring:* through it, in the male, passes the spermatic chord, from the abdomen into the pelvis; in the female, the round ligament passes through it. The aponeurosis is considerably strengthened at this part by some additional tendinous fibres, which run *transversely,* from the linea alba towards the ileum.

Action.—This pair of muscles, in contributing largely to the

formation of the abdominal parietes, laterally and inferiorly, give great support to the contained viscera. In action, they compress the bowels; and, in that manner, assist both in the evacuation of the fæces and urine, and also in the expulsion of the fœtus. At the same time, they will have the effect of diminishing the cavity of the chest, in the longitudinal direction, by forcing the abdominal viscera against the diaphragm, and driving that muscle forwards into the form of a convexity; and in the transverse as well, though not in the same degree, by compressing and retracting the ribs. But, in almost all their operations, they are connected with the diaphragm; and, together with it, produce effects that can only be understood by studying their separate and combined actions.

OBLIQUUS INTERNUS ABDOMINIS.—*(Ilio-abdominalis.)*

Situation.—Postero-lateral and inferior parts of the abdomen.

Form.—Broad; thin; fan-shaped.

Attachment.—Outwardly and posteriorly, to the spine of the ileum, from which the fleshy fibres radiate: inwardly, at the linea semilunaris, it becomes tendinous, and inseparably united with the aponeurosis of the external oblique; along with which it is continued to the linea alba.

Relations.—Externally, with the former muscle; internally, with the transversalis and rectus.

Direction.—Radiated: the superior fasciculi being directed towards the cartilages of the ribs; the inferior, towards the linea alba: both decussating those of the external oblique.

Structure.—Fleshy, from the ileum to the linea semilunaris: afterwards, to its termination, an expanded and loose-textured tendon.

Action.—These muscles will aid the former in sustaining the weight of the viscera, as well as in compressing them: they will have a more partial effect in the expulsion of the fæces and urine, in consequence of being placed farther back than the preceding. In any action the oblique muscles may have in turning the body to one side, the right internal oblique will co-operate with the left external oblique, and *vice versâ.*

TRANSVERSALIS ABDOMINIS.—*(Lumbo-abdominalis.)*

Situation.—Inferior and lateral parts of the abdomen.

Figure.—Broad; flat; quadrilateral: broader posteriorly than anteriorly.

Attachment.—Anteriorly, to the inner surfaces of the cartilages of all the false ribs; superiorly, to the transverse processes of the

lumbar vertebræ; posteriorly, to the anterior spinous process of the ileum: inwardly, to the entire linea alba.

Relations.—On the outer side, with the internal oblique and straight muscles: on the inner side, with the faschia transversalis and peritoneum.

Direction.—Transverse, directly across the abdomen.

Structure.—Partly fleshy; partly tendinous: the two substances divided by the semilunar line, which leaves the tendinous part broad, posteriorly; the fleshy, anteriorly.

Action.—These muscles will assist the oblique in supporting the burden of the viscera, and are more advantageously placed to effectually compress them: they are consequently doing more in the complete evacuation of the bowels.

RECTUS ABDOMINIS.—(*Sterno-pubialis.*)

Situation.—Infero-median part of the abdomen.

Form.—Elongated; flattened from above downwards: broader in the middle than at either extremity.

Attachment.—Anteriorly, to the cartilages of the six or seven posterior true ribs; and to the sternum: posteriorly to the pubes, near its symphysis.

Relations.—Anteriorly, it is placed between the pectoralis major and the cartilages of the ribs; externally, it has the united tendons of the external and internal oblique; internally, that of the transversalis: also, the internal pectoral and epigastric arteries; and the faschia transversalis and peritoneum.

Structure.—Tendinous at its attachments: the anterior one is aponeurotic. The intermediate length is fleshy, but divided into portions by about a dozen transverse tendinous interlacements or intersections. Each muscle, by itself, is inclosed within a sheath, formed of the united tendons of the external and internal oblique muscles, inferiorly; and of that of the transverse muscle, superiorly. At the places where the tendinous bands exist, the sheath contracts firm adhesion to the muscle; and it is this union and structure that gives rise to the existence of the linea transversalis. The recti occupy about one-third of the abdominal superficies.

Action.—Their principal use appears to be that of bracing the middle parts of the belly; and, thereby, counteracting that tendency to relaxation which must exist from the constant dependence of the bowels. They can have but little effect in compressing the bowels; though they will take some part in contracting the cavity of the thorax, by drawing the sternum upwards and backwards.

Remark.—A careful incision through some of the posterior fibres of the transversalis will disclose to view an expansion of

faschia of considerable density and firmness of texture, which corresponds to a part in the human subject first described by Sir A. Cooper, and by him named the *faschia transversalis*. It may be traced as an entire lining to the muscles of the abdomen; and is, from the resistance it opposes (which is by no means inconsiderable), of essential service in sustaining the burden of the dependent viscera, in effecting which it reduces the demand for muscular action. In it is an opening (removed a short distance, inwardly, from the external ring), called the *internal abdominal ring*.

[To be continued.]

Communications and Cases.

Ars veterinaria post medicinam secunda est.—VEGETIUS.

A REPLY TO MR. SPOONER ON MESSRS. BRACY CLARK AND TURNER'S SYSTEMS OF SHOEING.

By Mr. BAZING, *Reading.*

To the Editors of "The Veterinarian."

Gentlemen,

I AM exceedingly averse to any thing like a paper war, particularly in a journal like yours, which should be entirely devoted to the improvement of that science of which it is the avowed advocate. Improvement in every science may be much advanced by the correspondence of persons living at a distance; and it is upon that ground alone that I trouble you with the following observations, to correct some errors into which Mr. Spooner has fallen respecting the paper which you did me the honour to insert in your publication of last September.

The observation recommended by Mr. W. Percivall, viz. "I wish every one would only write what he knows, and as much as he knows," is very good; to which I beg to add an observation, viz. *I wish every one could understand what he reads, and criticise only what he understands.*

Mr. Spooner *mis*understands me when he says that I have "condemned Mr. Turner's system in terms which would materially cripple its rising reputation, if it did not altogether blast it in its bud, were his (Mr. Bazing's) observations founded on trial, or were they any thing more than unfounded assertions?"

I proved that Mr. Clark's and Mr. Turner's systems are exactly alike, and expressed in almost the same language; both contending for the elasticity of the foot of the horse, and directing their attention to the means of retaining that elasticity, and defending the foot at the same time; but each accomplishing his object by a method somewhat different from the other. I stated most explicitly the offence for which I "condemned" Mr. Turner, viz. assuming to himself the credit of another man's discoveries and labours, which have been before the public above twenty years; which Mr. S. himself states is the offence Mr. T. is accused of; and makes use of a "professional metaphor" to illustrate it; but he immediately loses sight of his own metaphor and Mr. T.'s offence, and says, very extraordinarily, "but I really cannot comprehend the nature of the offence which has called forth so severe an anathema, and proved Mr. Turner to be actuated by meanness and quackery."

Mr. S. is not quite right in saying that "an *expansion* shoe was in use in the days of queen Elizabeth." A shoe with a joint was certainly recommended by a writer of that time, not as an expansion shoe, but as a hunting shoe; so that if a horse should throw a shoe during the chase, this jointed shoe might be applicable to the foot of almost any horse of the description of a hunter. The *all-fitting shoe* (if I may coin such a phrase) would be more proper than the expansion shoe. Blundeville, who was the veterinarian that recommended this shoe, forgot that a hammer, nails, pincers, &c. were necessary to fix this all-fitting shoe to the foot; and these tools, together with the shoe itself, were found to be much too cumbrous for a huntsman to carry with him; it consequently never came into general use.

I know of no veterinarian prior to 1809 (which is the date of Mr. Clark's work on the foot of the horse), that has distinctly stated that the foot is elastic, and requires an elastic defence; but I know that the present Professor, in his abstruse two volumes quarto, on that subject, says nothing about the elasticity of the foot; so that if it "was probably discovered ages ago," it has never been acted upon, or even acknowledged, by the present *supreme head of the science.*

The late Samuel Bloxam, Esq. whose talents and merits place him high amongst veterinarians, was the first who gave a public approval of the doctrine of the elasticity of the foot, published by Mr. Clark; and Mr. Turner is the second who has had the praiseworthy hardihood to differ from the college doctrine of frog pressure, and to adopt a mode of shoeing at all consistent with the anatomical structure of the foot.

Mr. Spooner states, that "he shod his own mare, amongst

'others, being willing to try its capability of endurance fully;" and the result is satisfactory as to that point, which is inconsiderable, when compared with the benefits to be derived from it by keeping the feet "in a sound and healthy state, and in good order for use." If he would state the effects which the expansive mode of shoeing produced upon them, he would confer an obligation upon the profession and the public.

Having trespassed so long upon your pages, I shall conclude with thanking you for the attention you paid to my first communication, by its early insertion; and assuring you, that a desire to do that justice to Mr. Clark's discoveries which they deserve, was the sole cause of my addressing you then; and to correct Mr. Spooner's mistakes, prompts me again to subscribe myself

Your obedient servant,

W. H. B.

P. S. If Mr. Spooner wants real information on this subject he would do well to consult Mr. Charles Clark's reply to Mr. Turner, in the "Farrier and Naturalist," p. 274; and Mr. Isaac Brightwen's paper, in the same work, p. 234.

CASE OF IDIOPATHIC TETANUS.

By Mr. W. C. SPOONER, V. S. *of Blandford.*

A BLACK mare, four years old, was taken in from grass to-day, Jan. 28th, in consequence of having been observed to move with great stiffness, and to appear very dull. She walks with difficulty, and straddles uncommonly with her hind legs: the principal muscles are rigid; the eyes are fixed, and frequently shielded by the membrana nictitans; the abdomen feels tense; the ears are stiff; the nostrils dilated; the nose ejected forwards; and, in short, all the symptoms of tetanus are strongly manifested: the jaws, however, are not quite closed; the respiration is increased, and the pulse 50, but not full.

Fourteen pounds of blood were taken. On striking the fleam, the mare nearly fell down from the effects of the agitation caused by the noise. Immediately after the bleeding the pulse rose to 65, the breathing became greatly increased, and she broke out into a profuse sweat. Seeing in THE VETERINARIAN some successful cases of tetanus treated by camphor and digitalis, I was induced to give, by means of a bottle, digitalis ʒii, camphor ʒiii, aloes ʒvii, and rectified spirit of wine ℥iii, diluted with water. The mare dunged during the day, and her fæces were not very hard.

29*th*.—No worse; pulse 42: can eat a little hay and part of a mash; draught repeated by means of a syringe, after which the mare appeared much agitated. Aloes 3iv were given with gruel as an enema, and gruel administered during the day.

Evening.—The fæces are soft, and the mare sucks a little mash; warm clothing was ordered, and a blister on the spine.

30*th*.—The mare was found this morning lying on her near side, breathing laboriously, struggling excessively, and apparently suffering a great degree of pain. Eight men endeavoured to get her up, but in vain, as she could not render them the slightest assistance, being unable to bend her hinder extremities, and the muscles of her neck being quite rigid. Pulse 62. I opened the temporal artery, and about eight quarts of blood escaped, but without the least relief. The jaws were completely set, so that no medicine could be administered, and the mare lay groaning, sweating, and struggling, during the day, and in the evening, getting no better, and there appearing not the least chance of recovery, she was destroyed.

Post-mortem Examination.

My attention was first called to the serratus magnus muscle of the near side, which was found in a state approaching to gangrene. This I suppose must have been occasioned by the mare having lain on her side for twelve or fourteen hours before death, although certainly this cause does not appear equal to the effect produced. The lungs were inflamed, particularly the left lobe. The heart was unusually soft and pale. The diaphragm very extensively inflamed. The liver completely mortified; and the kidneys in a state of suppuration. The stomach was nearly empty, and contained a few bots and other worms. The large intestines were filled with soft black fæces, and were inflamed in patches. The brain, I thought, was softer than common: its meninges were very vascular, and some bloodvessels were perceptible in its medullary portion.

The above case of tetanus, I consider, was caused by exposure to cold, which, in the latter part of January, was most intense. The mare was turned out with two other horses for a winter's run, and was not taken in, although the snow was on the ground. I believe that her companions would not permit her to come under shelter; and a thaw having commenced, she was exposed, for a considerable time, to the droppings from the thatch on her hinder parts.

A CASE OF PNEUMONIA, WITH ULCERATION OF THE BLADDER.

By the same.

On the 23d of April last, I was sent for to attend a cart mare, nine years old, belonging to Mr. Stroud, of Spetisbury. When I first saw her, about 5 P.M., she was covered with a cold sweat, pulse 100, and which could scarcely be felt; respiration 60, and very laborious; the extremities cold, and the schneiderian and conjunctive membranes highly injected. I found that she had been about ten miles on the road, during the day, but would not pull a pound either going or returning. They had just bled her, and given her some *gin and beer*. I immediately abstracted eight pounds of blood from the jugular, and, having no other medicine with me, I administered a drachm of aloes. The blood coagulated in the usual time; its texture was rather hard, but no buff appeared on the surface.

I visited her again at 9 o'clock in the evening, and found the pulse 85, respiration 50, and not so hard. Five pounds of blood were taken away, and one scruple of white hellebore, two scruples of aloes, and three drachms of nitre were given every four hours. A strong blister was applied to the sides and brisket.

24*th*.—The blister has taken but very little effect; pulse 80; breathing 40; skin dry, but legs and ears cold. Seven pounds of blood were abstracted, but no buff on the blood; pulse sunk to 60 shortly after the bleeding.

8 P. M.—Pulse 76, respiration 35; does not lie down; stales and dungs. Give one scruple of white hellebore and two drachms of nitre every four hours.

25*th*.—Mare seems better; the blistered sides swell, but no discharge; pulse 70, respiration 30; the ball was repeated.

26*th*.—Not so well; pulse 80, respiration 35; bleeding to six pounds; and half a drachm of white hellebore was given.

27*th*.—Pulse 80, respiration 25; stales often, once perhaps every hour, but without pain or difficulty. The urine appears to be in its natural state. The mare evinces no signs of pain on pressure being made on the loins and pubes. Bleeding repeated to six pounds. The blood was longer coagulating than it has hitherto been, and a buffy coat an inch thick appeared on the surface for the first time. Give of white hellebore and aloes half a drachm each in a ball every four hours.

28*th*.—Pulse 85, respiration 30; stales often. I suspect some other organ to be diseased besides the lungs, as the heart con-

tinues to beat with such strength and frequency, and the breathing and other symptoms do not correspond.

Evening.—Much the same; pulse 95 and hard; sides and abdomen scalded with hot water. Bleeding to six pounds; half a drachm of hellebore every four hours.

29*th.*—Pulse 90, respiration 25. Blister ointment applied to the sides.

Afternoon.—Pulse 100. Bleeding to eight pounds; a little buff on the surface of the blood. Give of digitalis, cream of tartar, and emetic tartar, two drachms each in a bolus, every six hours.

30*th.*—Pulse 100. I expect her death to-day.

Evening.—Pulse 140; legs cold; lies down, and looks round freq uently.

Post-mortem Examination.

On opening the abdomen a large quantity of fluid escaped, of a brown colour and muddy appearance. The bladder was much diminished in size, and a large hole was perceived near its fundus. The edges of the orifice were smooth, and it appeared to have been occasioned by ulceration; the coats were thickened, but the bladder itself did not appear to be much inflamed, except immediately round the orifice. Every time the mare staled a portion of the urine must have been discharged through the orifice into the cavity of the abdomen. The lungs were quite black, the pleura much inflamed, particularly that portion of it lining the diaphragm. The bowels and liver were slightly inflamed, the peritoneum much injected, the kidneys and ureters free from disease, and a large hydatid found on one of the ovaries. A great number of bots were found in the stomach, many of them attached to the villous portion, and a few had penetrated through the mucous, and nearly through the muscular coat.

The above appears to be a singular and uncommon case. Professor Coleman relates, in his lectures, a case of ulceration of the bladder; but there the cause was cystitis, from caustic injections into the bladder, and great pain was manifested. In this case, I have no reason to suspect any thing of the kind had taken place; and no acute pain was manifested differing from the usual symptoms of pneumonia, except on the day previous to the animal's death. She dunged and staled from the beginning of her illness without difficulty: had it been otherwise, I should have examined the state of the bladder per vaginam.

She had been in the possession of the owner four years; never had any thing the matter with her; and the carter never observed her to stale differently from, or more frequently than, his other horses.

OBSERVATIONS UPON THE PRESENT STATE OF HORSES IN WHAT ARE CALLED THE BREEDING DISTRICTS.

By Mr. CASTLEY.

Durham, March 30, 1830.

"Just as the maggot bites, I take my way."

ANY one who, during the last twenty or five-and-twenty years, has had frequent opportunities of visiting some of our great horse fairs in the north of England, must, I am sure, be struck with the *sad falling off*, there is every where to be remarked in the goodness or quality of one-half and three-parts bred horses, as exhibited at these marts for sale. And this is, perhaps, more particularly observable within the last few years.

At the great Northallerton February fair, a place where formerly one might at any time have picked up a whole lane full of the "nicest horses alive," this year there was scarcely a decent nag to be seen. And so it is here at Durham, where I am rather a looker-on than any thing else at the great annual show, now in full operation.

I have been induced to commence these observations, not only in consequence of what I myself have seen, but after having had a good deal of conversation with practical persons on this interesting subject.

The county of Durham has been celebrated for its breed of Cleeveland bays, from which our carriage horses originate; and there are several stallions of this description shown on the present occasion. There are also some fine colts of this kind brought forward; which have met with ready sale for the London market. But the supply in this respect has been very scanty in comparison with what it used to be; whilst there is nothing like a good nag to be seen. And yet there are plenty of horses, of one sort or other, such as they are.

I was also present at the great Newcastle fair, in October last; and having seen it once before (more than twenty years ago), the contrast, in my mind, was very striking. Every body, however, said, the last Newcastle fair was the very worst they had ever seen, with regard to the goodness of the stock produced there. The county of Northumberland, so long famed for "gallant steeds," seems to be on the decline in this respect. Good horses, like angels' visits, are "few and far between."

I have instanced these three leading fairs, as likely to afford a good test of what is going on in the three great breeding districts

to which they belong, viz. the North Riding of Yorkshire, and the counties of Durham and Northumberland. The most common feature at all these places, is, a great scarcity of any thing like good horses of any sort, and abundance of bad ones of all kinds.

In making this assertion, I by no means trust to what I myself have seen. I am borne out by persons of far greater experience than myself in these matters;—men who have been in the habit of the most constant attendance at these northern fairs, even for a much longer period than I have named. "These fairs," say they, "are sadly falling off; every year they are getting worse and worse; they are now scarcely worth going near."

Some people suppose the farmers may not bring their best cattle to market; but this is mere imagination. Upon this point I think our old friend, Mr. Thomas Harris, who, in mounting his Majesty's cavalry for so many years, may be said to have lived all his life in the midst of these northern districts, is to be considered pretty good authority. "The farmers," he observes, "cannot bring what they have not got: the horses are not in the country." And this I believe to be the true state of the case.

It is a fact, then, admitted by persons of the greatest practical experience, and of which there can hardly be a doubt, that our breed of horses, calculated for general purposes, has greatly degenerated and fallen off, particularly of late years. This is a circumstance, every one will own, much to be regretted. For my own part, I cannot help looking upon it as a kind of national misfortune: and it may be worth while to enquire into the causes which have tended to produce this state of things.

The farmers complain that breeding horses does not sufficiently repay them; and yet we find large sums of money always given at fairs for any they produce that are really good. Those of a certain quality are sure to fetch high prices: such prices as one would think must remunerate them, under any circumstances. Bad ones are not, at any time, likely to pay for rearing; and certainly less now than ever, because of the advanced rate of land and the increased expense of production. But the truth is, that the farmers, now-a-day, do not breed horses so generally good as they used to do; that, in short, they produce much fewer good ones, and an infinitely greater proportion of bad ones than formerly: and this I take to be owing, in a great measure, to the inferior quality of the mares they now most commonly employ in breeding. Of late years they have been tempted to part with all their best mares, and have been breeding from the refuse. The stock consequently deteriorates and disappoints them.

The great demand for mares, withing the last fifteen or twenty years, in the London market, for the army, and to go abroad,

has, I think, mainly contributed to get the best material for breeding out of the farmers' hands: the hard times, perhaps, have done the rest.

In the first place, I may observe, that thirty years ago no gentleman would be seen riding a mare at all: it was considered vulgar, or was unfashionable. There was, therefore, but little demand for them in the London market; and there being no other outlet, they were consequently left, for the most part, in the farmers' hands, who kept them principally for their own use. You would then see them riding to market mounted upon the finest mares possible; and having such a choice, they naturally selected from amongst them the best for the purpose of breeding. Like produces like: the stock would seldom disappoint them. And, although they might not get so large a price then as they could now for a good horse, yet, as they produced them more generally good, they were, upon the whole, better remunerated for breeding these animals.

It is about twenty-five years since we first began to take mares for the cavalry. Before that period, our dragoons were mounted, almost exclusively, upon geldings. Now, however, there is no exception made; and as we commonly get a better animal, being a mare, than a gelding, at the troop price; so we have, ever since the removal of the restriction, been admitting a very great proportion of mares into all the regiments of cavalry. These, for the most part, are kept until they become old and worn out in the service, especially if they be good ones, and consequently unfit for the purpose of breeding.

Then, again, there is the demand for the foreign market. Since the peace, all restrictions having been removed, and we allow foreigners to come and take away as many of our horses as they please. And certainly, within the last ten or fifteen years, a vast number of our finest three-parts bred mares have been exported to various parts of the continent, particularly to France and Germany. These, it should be remembered, never find their way back again: and this is not like exporting a piece of manufactured goods; for here we are parting with the raw material: and, by so doing, we should also recollect, that we are not only giving foreigners the means of manufacturing for themselves, but are, at the same time, shortening our own power of production.

The people of the continent will never give us credit for this as a piece of gratuitous generosity; and whatever benefit may be expected to arise to our manufactured goods from the free trade system, with respect to our horses I will venture to say it must have a very different effect. The money brought into the country by the export of these animals is but a mere trifle—a drop in the

bucket; whilst we are doing ourselves incalculable mischief by allowing some of our best material to pass out of our hands for ever. I should say, let foreigners take away our stallions as much as they please; but no mares. I would not suffer a single mare to leave the country; or, at all events, we should restrict the exportation to such as are under fifteen hands high. If the scarcity complained of in the northern districts continues to increase, as it has done of late years, gentlemen will begin to feel this rather a serious evil, and may think of adopting some legislative measure on the subject. But I would lock the door ere the steed be stolen.

These causes, I think, have mainly tended to draw the best of the mares out of the farmers' hands. But to these is to be superadded the "hard times"—the depression of the agricultural interest, so much felt and so much complained of, of late years. And here I cannot help repeating an excellent observation of my friend, Mr. Thomas Swan, of Bedale: "Thirty years ago," said Tommy, "if a farmer had a good brood mare, he would as soon have thought of parting with his shirt; but the bad times makes them think of parting with any thing they have." Nor is this to be wondered at; a man in embarrassed circumstances naturally enough sells that which will fetch him most money. Thus the farmers, of late years, have been tempted to part with almost all their best mares; and, as I have said before, have been breeding from the refuse. This, in my mind, is sufficient to account for the deterioration that is going on. It has produced its natural consequence. I took particular notice of the farmers riding into town on the last market day at Durham; they were mounted, generally, upon little, bad mares, worth nothing. I have seen them infinitely better mounted, and hope to see it again.

We have still our race of thorough-bred horses, which are not only kept pure and distinct, but brought, perhaps, to the highest state of perfection. I never in my life, I think, saw a finer lot of young ones than those produced last year at Doncaster, to run for the St. Leger and the two years old stakes. They formed, indeed, together, a splendid constellation. Racing is the truest test of excellence; and so long as this continues to be the favourite amusement of our noblemen and gentlemen, so much encouragement will always be given to breeding race-horses, that England must ever remain, at least with regard to the south-eastern blood, the Arabia of Europe. And as long as this is the case, there will be no danger of our losing the best of our stock of this kind. Any thing that has been found really superior will always be too highly prized amongst ourselves for foreigners ever to get from us: they will never pay the price of our first-rate

horses; we can, therefore, never have any lack of sires; we have plenty of stallions of the very best blood and quality: but this is only *one side of a ladder*. To make good work of it, I contend, we must also breed from good mares of their kind. There are, indeed, some strange theorists in the world, who would have us believe that the sire is every thing, and the female nothing, in the production of offspring; that it is the male alone that stamps the peculiar character of the progeny. Our neighbours, the French, seem, I think, to have taken up this idea pretty generally. In the *Recueil de Medicine Veterinaire*, we find a paper written by M. Paquer, of Nantes, "sur l'etat des Cheveaux en France, et sur les Moyens de les ameliorer," in which we are told, that "a farmer of the name of Leroche, living at Grisey, in Brie, by the advice of M. Chabert, director of the veterinary school, "had several cart mares covered by an Arabian horse: they were straight-shouldered, flat-sided, had bad hind quarters (croupe basse), and were altogether of the worst formation; but they brought forth foals that afforded a striking contrast to themselves, and marked the most rapid stride of nature towards perfection. One of the produce being again put to an Arab, gave, in this second cross, a figure that approached most singularly to that of the sire; and which, in fact, inherited all the properties of a thorough-bred horse (de premier sang). Here (says M. Paquer), is an interesting phenomenon, worthy the observer of Nature!! It would appear, that when the races are so different, the female only offers a RECEPTACLE where the *seed* of the male is developed in its full force. This, then, (he continues) is our best plan; the surest mode of proceeding, in order to make our present *miserable* race of horses disappear. And crossing in this way offers another advantage, which is, that it may be put in practice upon a number of individuals at the same time."

Here, indeed, is crossing with a vengeance. In England, we should call this only spoiling good cart-horses; and so long as our friends, the French, have these notions of breeding; so long as they imagine they can get a thorough-bred horse out of a cart mare, either in the third or thirtieth generation, we need not be much afraid of their rivalling us in horse-flesh. Nevertheless, I would not allow them to take away our three-parts bred mares; for these will certainly afford them such material as they are not likely to find any where else.

With respect to breeding, however, I should be much more inclined to follow the example of our practical friends, the wild Arabs of the desert. Horses may be said to constitute the whole of their property—their stock in trade. Breeding and rearing

these animals is the business of their lives, and has been for many generations back. These people, we are told, never suffer a horse and mare to come together unless of equal rank, beauty, and merit; and they *never allow any of their mares to pass out of their hands.* The stallions they will part with readily enough, but a mare is rarely to be obtained from them, except by fraud or excessive corruption. "The Arabs have found out, what the English breeder should never forget, that the female is more concerned than the male in the excellence and value of the produce."—*Library of Useful Knowledge, Farmers Series.*

I like practical knowledge; and I care not where it comes from. The Arabs never trouble themselves with theories; but if there had been any truth in that of M. Paquer, they, too, we may venture to say, would have found it out ere this; for it is well known that in Arabia there is also an inferior or common breed of horses, which they are very careful to keep separate from the *pure blood* of the "true courser of the desert."

The point, however, I wish to establish, and the principle for which I contend, is the great importance of the mare in the operation of breeding, not only in a pure and unmixed race, as the Arabian, but also in crossing; and as a proof of this, I may instance one district in England, the East Riding of Yorkshire, which, I think, will go far to bear me out in this view of the matter. This district, or that part of it commonly called Holderness, still keeps up an undiminished celebrity with respect to breeding, and continues to produce as many fine horses as, perhaps, it ever did. At the great Howden fair, both last year and the year before, there were crowds of horses, and those, too, of the very best description; for there is no fair in England, perhaps, that affords such a variety of good and useful horses. In order to account for this, I must, in the first place, observe, that the Cleeveland mares, without doubt, afford the very best material we have for a cross with the thorough-bred horse; and these have been long introduced into Holderness, where they seem to have been prized, and to have been improved and cultivated more than any where else. The farmers in that country have long been in the habit of doing all the business of their farms with these mares (never allowing a black cart-horse to come amongst them); and they breed from all the best of them at the same time. Like the Arabs, they would not part with these for either "love or money." Here it is that the greater part of the fine carriage horses we see in the streets of London are bred; and to produce these, they find a cross of blood on the mare's side is all the better, or even more, provided they can preserve the *size, colour,*

form, and other requisite qualities. They can thus calculate upon getting either a fashionable carriage horse, or a big-sized nag; and, in either case, an animal of considerable value, which, in general, will amply repay them for breeding. But in order to procure big horses, even of any kind, it seems quite necessary to employ *large roomy mares;* little ones will mostly produce a diminutive race, no matter what horse they are put to. This circumstance the breeders in the East Riding seem to attend to more than others; and we do not hear them complaining of being insufficiently remunerated for rearing this kind of stock. Further north they have run more upon blood; and as I have before observed, mares of this sort being in great demand, the farmers have, of late years, been tempted to part with the best of them. This, I say, has produced its natural consequence. The greater part of the horses now brought forward at these more northern fairs, to use the phrase of the dealers, "look like no trade at all;" meaning that they are generally of so bad a description, that it would puzzle any one to know what to do with them. Let us hope, however, that the times will mend with the farmers; that we may again see them riding to market well mounted; and that whenever they find they have a good brood mare, they would no more think of parting with it, to use the words of our friend Tommy Swan, "than they would with their shirt."

I have been led on to make these observations from the regret I feel at witnessing the deplorable change that has taken place in these northern districts within my own recollection. These counties, so famed for "flying steeds," are now, in that respect, scarcely better than their neighbours.

And although this subject may not be considered strictly professional, yet it is so connected with our profession, that I think we must all feel interested in it; for should we lack patients, our vocation's gone; and then what would become of all the host of Vets., so

> Numerous in our isle,
> Like half-form'd insects on the banks of Nile?—POPE.

I know not, but I think if the manufacture of veterinary surgeons and good horses goes on *increasing* in the same *inverse ratio* as of late years, we shall soon have nearly as many of the one as the other.

ESSAYS ON HORSE MEDICINE;

COMPREHENDING THE THEORY AND PRACTICE BOTH OF THE FRENCH AND ENGLISH SCHOOLS.

By O. P. Q.

ARTICLE II.

Dupuy's Historical Abstract of the Ancient and French Writers on Glanders.

THE end proposed by M. Dupuy in this research was to obtain correct pathological views from a multitude of observations, both on the living and dead subjects, extended to domestic animals in general; commencing his investigation with a rapid exposition of the different opinions of the most popular French authors who have written any thing on the subject influential of the general doctrines. The work comprehends five heads or *divisions*, under which are ranged the *origin*, *progress*, *varieties*, *comparative affections*, and *treatment*, of glanders: this will suffice for the "avertissement;" so let us now turn to the

HISTORICAL PART.

Lafosse senior appears to have been in error when he asserted that glanders was a new disease, unknown in Europe before the year 1494, and that it was first mentioned in the writings of the Spaniards; both the Greeks and the Romans have left descriptions, which, though imperfect, answer to no other disease but glanders, the former named *malidin* and *distillation*, the latter *suspirium*. Hippocrates assures us that, when confirmed, it is incurable; and Vegetius concurs in the same sentiments. This incontestable historical truth, remarks Dupuy, is the sole fruits I have reaped from a perusal of the ancient Greek and Latin authors: they have not thrown a spark of light on *the nature of glanders*; it does not appear even that they gave themselves any concern about it, an occasion on which we might perhaps call to mind the critical reflection of Zimmerman: "some authors pretend to discover in the ancient writings universal knowledge, regarding the modern as plagiarisms; a strain adopted by certain fastidious minds to depreciate their cotemporaries, by which stratagem they hope to enhance their self-sufficiency. That the ancients have formed a correct judgment of things in general, no one denies; but to maintain that the moderns do not enjoy the same advantages, is quite absurd."

SOLEYSEL, who wrote in 1669, and whose work has been translated into all the European languages, considers glanders as a passive malady, allied to catarrh and strangles, next to which he places it: his descriptions may be thus summed up.—"Glanders consists in a profuse nasal flux of a viscous phlegmatic humor, white or red, yellowish or greenish, which is sometimes furnished by the spleen, almost always by the lungs, seldom by the liver and kidneys. Glanders invariable manifests itself by ulceration in the lungs, rather than elsewhere: the ulceration gradually spreads and destroys their structure, and the animal, after five or six months' suffering, dies. The diagnostic sign between glanders and catarrh is the adhesive property of the discharge, which sticks like glue about the nostrils: and this is an unfavourable presage.—It is a malady highly contagious, and very difficult to cure. *Most of those who boast of having performed such cures have only recovered cases of strangles or catarrh; for but few glandered horses are cured:* OR WITH MORE APPROACH TO TRUTH, WE MAY SAY THAT NONE ARE". Soleysel cultivated with success some parts of the veterinary art, particularly the study of the exterior of the horse; his acquirements have proved useful; his contributions have sensibly progressed science, and even at the present day his works may be consulted with advantage: but he lived at an epoch when the study of anatomy was unknown among farriers; he was ignorant of the principles of this science so essential to the therapeutic art; a declaration he makes himself in his "PARFAIT MARÉCHAL." Without so necessary, so indispensable a guide, his ideas of glanders are erroneous or altogether false; his opinions are not the result of observation or experiment, but are rooted in a hypothetical combination established upon the most obvious symptoms of the malady; and the ultimatum of the analysis of his work comes to this,—that he ascribes all disorders occasioned by glanders to an acrid humour corroding the pituitary membrane. This opinion has been revived as new by several writers since Soleysel, as well as the extirpation of the lymphatic glands between the jaws, which the same author sets little importance upon, as not including all the diseased parts.

GARSAULT wears himself out in ratiocination and hypothetical explication; and, like Soleysel, whose ideas he has in a great measure borrowed, he has created an imaginative system of his own. Glanders, according to this author, is bred by an acrid and indigested humour, or by a concrete lymph disgorged from the blood into the nasal and submaxillary glands. The less thick and acrid this matter is, the more readily it is separated from the blood, and the less it corrodes the parts in which

it is deposited, &c. &c. &c. Garsault adds, that when strangles has not been radically cured in the colt, it returns in a more dangerous form, receiving then the appellation of *bastard strangles*, which runs into expectoration, and that degenerates into pulmonary consumption: the horse then dies of what is called glanders, an incurable disease. From an observation of Garsault's, M. Dupuy finds, that the practice of killing glandered horses has long existed; and yet, he remarks, the number affected continues undiminished: a circumstance he adduces to show the inefficaciousness of this expedient, and one, he adds, that ought to induce government to adopt some other measure more conformable to observation and experience, and conciliatory to the interests of the community.

The *seat* of glanders formed the principal object of research of Lafosse senior; he attached the greatest importance to this discovery: it constituted the foundation of his medical system. "Authors who have hitherto written on glanders," says his son, "have been equally unacquainted with its seat and remedy. This malady has been referred by some to the brain, by others to the lungs, to the liver, to the kidneys, who, confounding the different defluxions, have given the name of glanders to all such as were nasal. My father, to whom the light of hippotomy exposed the ridiculous errors of the farriers, betook himself in the year 1741 to the research of its veritable seat. In the end, he discovered this to be, in 1749, the pituitary membrane, and published his discovery in a memoir which he presented to the Royal Academy of Sciences. The report of the commissaries, Messrs. Bouvard and Méripant, confirmed this truth. Ever instigated by the love of his profession and the public weal, he pursued his investigations until he was enabled to distinguish the different nasal discharges: he recognised seven different kinds, and showed, in 1751, in a supplement to his original memoir, that only one of them deserved the name of *glanders;* a fact that was also confirmed in another report of the commissaries of the Academy, Moraud and Bouvard."

Convinced of the local nature of glanders, Lafosse set about producing it, not by communication, but by artificial means, as the injection of corrosive liquors; and affirms that he has often seen it supervene upon mechanical nasal injuries: he therefore rejects all constitutional aid. Comparing it to *ozena* in man, he insists upon the efficacy of topical agents alone, such as fumigations, detersive injections, the trepan, &c. He avows, however, that his success was not uninterrupted.

Jealous of upholding the fame of his father, LAFOSSE *junior* addressed a dissertation to the Academy of Sciences, in which he

undertook to remove existing doubts, and to prove, by fresh experiments, that glanders had its existence (exclusively) in the pituitary membrane. It was only required to have eyes, he said, to be convinced of this truth. After all, however, he achieved nothing in addition to what his father had already done, and left the *nature* of the affection undeveloped: and, indeed, it is clear, by the report, that his father's memoir did not receive the general approbation of the Academy, as was triumphantly asserted by young Lafosse, for there were distinguished individuals who still maintained the humoral pathology.

Malouin was one of those who was not a convert to the doctrine of Lafosse and his son. He had frequent opportunities of examining glandered subjects, and the pathological results of his observations were,—That the brain was healthy; the membrane of the nose redder, thicker, and looser in texture than in the healthy state, more or less besmeared with matter resembling what had been ejected before death, and entirely or partially vitiated; and that the velum palati also was often similarly affected. Impressed with these notions, M. Malouin obtained the assent and concurrence of the superintendants of the king's stables, to subject several glandered horses to treatment, consisting of long-continued periodical purgations, the administration of antimony in combination with mercury, nasal injections and fumigations, trepanning the sinuses, incising and potentially cauterizing the submaxillary tumors, &c. &c., but all proved to be of no avail; for, though there were horses that recovered under such treatment, others fell victims to the disease whose cases presented equal hopes of success.

Glanders, says Paulet, is a malady, the cure of which has proved, to the present day, a stumbling-block to those engaged in the hippiatric art: the difficulty of stamping its character, and of establishing its true seat, is scarcely exceeded by that of removing it. He argues the indispensable necessity of a rigorous definition of its nature to guide us in our prognosis, lest we confound it with other nasal fluxions; and cites the works of M. M. Lafosse, Malouin, Moraud, and Jenon, as the best sources of this useful information. In order to have a correct idea of glanders, Malouin says he must compare it to syphilis; the two poisons exert their influence in the same way; in both diseases the presence of virus contaminates the lymphatic fluids, and thus infects the neighbouring glands. Following up this opinion, as there was known a remedy for the one, Malouin undertook to furnish a specific for the other. Accordingly, in the year 1759, experiments were made by him upon several horses belonging to the king. This work contains observations on different fluxions

from the nose; and he characterizes farcy as the most dangerous (des morves), adding, that it is a Proteus, capable of assuming a variety of forms, referable to the parts wherein it is seated; and that it is a schirrous and cancerous affection. Speaking of strangles, he observes, "that so long as people believe contagious diseases to be necessary, so long do they continue slaves to prejudice; but that whenever they can muster courage enough once to throw off the yoke, they will feel convinced that it is no more necessary that a horse should have the strangles than a man. Aristotle assures us, that horses roving wild in woods are not liable to the disorder. What is so improperly called *strangles* (gourme), is nothing more than a phlegmonous inflammation of the throat, which ends in ulceration of it. If contagion gave rise to it, what occasion have we chimerically to ascribe to it a depuration of the blood?— an idea that will remain unintelligible so long as men believe in the existence of innate seeds of inflammatory disorders, strangles, and these pretended depurators, terms only fit to eternize error. It would be far wiser to seek out the veritable sources of these several maladies."

M. Chabert attained great celebrity: his memoir on glanders was inserted in the *Recueil de la Société de Médécine de Paris*, in the year 1779, and his *Instruction on the Means of ascertaining its Existence*, was lavishly diffused by government, and has become a class book. These works contain no new theory: the author seems to have considered prognosis and proximate cause as foreign to the plan of his work; he writes more in the character of a historian than a proficient veterinarian; the principles he espouses are those of Soleysel, whose text he has elucidated, and whose ideas he has expounded without comment or amplification. His principal aim was to inform the pupil, to enlighten him in practice, and to guide him in the application of curative measures; to this point he exclusively directs his observations, researches, and indications. He points out as the diagnostic traits of glanders, fluxion from one nostril, the conservation of health and spirits, the slowness of its progress, and its occasional intermissions. The causes are, he avers, contagion, forage of bad quality, suppressed transpiration, neglected strangles or bastard strangles, the dispersion of humours by local means, the sudden repression of cutaneous eruptions, mange, farcy, &c. Glanders that ends in farcy oftenest proves curable; and *vice versâ*. He divides the disease in progress into three periods or stages. The *first* is characterised by a whitish fluid discharge; by congestion and inflammation of the nasal membrane; and by the attendant good health of the animal: added to which, idiopathic glanders is accompanied by a cough. In the *second stage*, the flux grows

thick and changes colour, the borders of the nostrils rigid and contracted, the swollen glands tender and fixed to the jaws. The *third stage* is characterised by the greyness and fetidness of the discharge, the frequent nasal hæmorrhages and sudden ejections, the chancrous and eroding ulcers, the excessive sensibility of the affected glands, gumminess of the eyes, tumefaction of the lower eyelid, and razing (soulevement) of the turbinated bones. Such are the principles diffused through the two works of M. Chabert. They may be regarded as the journal of one who has seen and practised much in the course of a long career, but who has been so engaged in treating the disease, that he has left to chance the reaping of those observations that might have proved a clue to the development of its nature.

Gilbert, after representing glanders as the most disastrous of disorders to which horses are liable, and exposing the fallacy of pretensions to cure it, "a precious secret," he says, "which yet remains in nihility," defines what *he* means by glanders thus: The pituitary membrane secretes in health a limpid humour, whose tenuity is such that it evaporates as fast as it exudes. This humour, from various morbid influences, becomes suddenly augmented in quantity and consistence; when the animal is said to have a discharge. This discharge or flux is accompanied by different symptoms, such as dejection, dispiritedness, fever, ulceration of the pituitary membrane and others. These symptoms appear in strangles, bastard strangles, catarrh, and glanders; but glanders may exist without any other symptom but discharge, which flows but from one nostril until the disease has reached its last stage. It is, therefore, the flux that essentially constitutes glanders, though this is often combined with engorgement of the sublingual lymphatic glands, and inflammation and ulceration of the pituitary membrane. Though glanders is ordinarily chronic in horses, it sometimes assumes the acute form; in mules and asses it is invariably acute; it appears to be, like bastard strangles, a degenerated species of strangles, which plays the same part in the horse that small pox does in man. (*This is Soleysel's opinion revived.*) Both strangles and bastard strangles, especially the latter, frequently end in glanders, and these two diseases show a perfect and indispensable identity. In fact, glanders is no more than an imperfectly developed strangles. But of all maladies, farcy is that which most frequently terminates in glanders; from which circumstance farriers have given it the burlesque appellation of *the cousin germain of glanders.* They have regarded it as a specific disease (for ignorance commonly distinguishes as many diseases as symptoms), an opinion, once established, likely to allure even the most enlightened minds.

It is evident that the old authors have not sought, in their researches, to determine the nature of glanders: they had observed the prominent symptoms, the obvious signs, and they drew hypothetical inferences; their opinions rested only upon conjectures; not one of them has considered it as an organic lesion, a species of disease more common than they were aware of. The moderns have nothing enriched these ideas; they have followed the old tract: like those who have gone before them, they have not tried to gain the source; their writings are really nothing but commentaries; they have developed, amplified, and presented in other forms what was written before.

ON BREEDING.

By Mr. KARKEEK, *of Truro.*

[Continued from p. 269.]

DIFFERENCES IN THE DISPOSITIONS OF HORSES.

"Ergo animos ævumque notabis
Præcipuè: hinc alias artes; prolemque parentum,
Et quis cuique dolor victo, quæ gloria palmæ."

THE advice of Virgil with respect to choosing a horse "for a chariot or the manège," should be followed by every one who intends to breed those valuable animals. The character and habits of the sire and dam should be thoroughly known; for it is a well known fact, that the offspring generally inherits the propensities and passions of the parents. Every one acquainted with horses must be well aware that there is as great a variety in their dispositions as there is found among mankind: the boundless ocean does not exhibit scenes more diversified than their various tempers and characters. Each appears to possess an original bent, which seems to distinguish one from the other; that tends to form a character, and to make them meek or fiery, generous or deceitful, resolute or timorous. Those peculiar characters may, in some measure, be discriminated by the countenance. The countenance has been by some supposed to be the index of the brain—a book where the passions and emotions might be read; but this has been too much over-rated; for the countenance of a horse, as well as that of a man, is oftentimes a fallacious dial: notwithstanding, it must be allowed, that there is a certain turn of expression in the countenance of horses which

awakens the attention of the observer. The animated intelligence of the eye, the fire and expression of a well-formed head, when inspired by any particular passion, may well be considered as a tablet where the secret springs of the mind may be traced in characters strongly marked, and almost convince us that

"Looks in them are the language of the mind."

Deportment and *actions* are probably the best index to the different characters. The ears of horses are supposed to be good criterions of their dispositions.

"For temper watch his head;
And if he greet your gently stroking hand
With ears laid backwards, and projecting snout,
Proceed elsewhere, and make another choice."

Horses who carry one ear forward, and the other backward, during a journey, are usually considered to be animals of spirit, and not easily fatigued. The reason is obvious: a good horse pays attention to every thing passing around him, and directs his ears in different positions, to gather sound from every point.

In tracing the organizations of animals, through all the gradations in the scale, we find man at the top, displaying faculties superior to any thing visible in the most perfect forms of brute creation. The perfection of his intellectual faculties is generally supposed to be owing to the size and structure of the brain, and, as the brain exactly fills up the cavity of the cranium, the figure of the skull has been used to denote the comparative size of that organ.

The scale of intellect is very extensive among mankind, from the civilized European to the stupid and brutal negro; for the mind of the negro is not so perfect as that of the European, nor is the organization of the parts so perfect. And as, among men, there are different degrees of intellect, so among horses there are often remarkable differences.

On viewing the heads of a cart and a blood-horse, we are immediately struck with the difference in their appearance; the former exhibiting a dull, heavy, stupid uniformity of features, whilst the latter shows a spirited, animated-looking countenance, that actually, as Shakespear says, "enforces homage."

On taking a comparative view of each, as an anatomist, we find the cranium of the thorough-bred proportionably larger than that of the cart-horse; if, then, the various degrees of intellect be explained by the difference of size in the cerebral parts in men, the same comparison may be drawn with reference to the degrees of understanding possessed by the different breeds of horses.

It was the opinion of the antients, that there existed a great influence between the mind and the body, and that the *temperament* of the body could give rise to individual feelings. Gervase Markham, in his master-piece on farriery, contended that there were "four humours in the body; blood, bile, black bile, and phlegm:" hence horses, according as one or other of these humours abounded, were said to be of a "sanguine, choleric, melancholic, or phlegmatic temperament." This ideal philosophy, which is now superseded by the superior light of modern science, was copied from the human surgeons: it pervaded the whole of Greek medicine, and continued through the Arabian, during the reign of Abbassides, and came with other Greek and Arabian medicine into Europe. We are not, however, to infer that the doctrine itself is without foundation; the antients erred, only by limiting the number of the temperaments to four, and fixing their attention in this division solely on the quality and composition of the blood, instead of regarding the whole animal economy. For the fact appears very certain of the existence of this diversity of temperaments, and of a corresponding disposition of mental character. Thus some horses are remarkable for being spirited and lively; those are designated *sanguine:* others are slower and less irritable than the last; those are called *phlegmatic:* others that are termed *choleric,* are prone to anger; whilst the *melancholic* are of gloomy tempers, patient and not easily provoked.

Such is an outline of the temperaments: all the modifications seem to us to be mere varieties of the *sanguine* and *phlegmatic.* Those varieties are generated by climate, soil and manner of living; by hereditary disposition; and by the peculiar organization of the animal.

"The predominance of any particular system of organs modifies the whole economy, impresses striking differences on the results or the organization, and has no less influence on the intellectual than on the physical faculties. This predominance establishes the temperament; it is the cause, and constitutes its essence*."

Horses of large brains† generally possess much sensibility,

* Richerand.

† The skull of the celebrated horse *Eclipse* was exceedingly large, when shown to Dr. Spurzheim, and his phrenological observations requested as to the powers and character of that animal. "The leading characteristics," he observed, "were a remarkably large brain, not only in proportion to the size of the animal, but to horses in general; strongly indicating great and high courage, unusual sagacity, but deficient in meekness, or rather a vicious temper; and it was further remarked, that considerable difficulty must have been experienced in rendering such an animal subservient to his

great courage and sagacity; hence proceed that quickness of perception, accompanied by violent propensities to anger and impatience under controul, in most horses showing much "blood."

> "Primus et ire viam, et fluvios tentare minaces
> Audet, et ignoto sese committere ponti;
> Nec vanos horret strepitus."

Horses of this kind, when once properly subdued, are best managed by temperate and mild treatment. Many persons have fatally experienced the bad effects of young horses being intrusted to rash ignorant persons, but when broken by those who have acquired a thorough knowledge of what the animal is capable of performing, then, with the most ready submission,

> "The gen'rous horse,
> Restrain'd and aw'd by man's inferior force,
> Does to the rider's will his rage submit,
> And answers to the spur, and owns the bit."

A diminutive brain is generally connected with dull senses, or what the antients called a phlegmatic languor; these qualities are, however, in some measure counterbalanced by being more capable of enduring labour.

The muscular power of animals is considerably influenced by the temperament, as far as the different degrees of activity depend. Thus, if we see two horses which correspond in figure and stature, one possessing great activity, and capable of enduring great fatigue, whilst the other, with the same apparent qualifications for speed and courage, is slow in his muscular movements, we conclude that there is a greater activity in the brain of one than the other.

Again, we perceive the difference in two horses: a small one is capable of more exertion than a large one, or small men of the sanguineous temperament can fight large men of the phlegmatic temperament: although the muscles of the latter are much larger, yet they are not so active.

Mr. Kerr's communication* "on the willingness of horses for work," will better exemplify the influence of the mind on the body. The vital principle appears to act with increased activity in small

rider, but that, when subdued, he could best be governed by gentle treatment, and would prove docile under proper authority."

The correctness with which these remarks were made, must strike the unprejudiced and enquiring mind with more than ordinary force, when we state that our learned phrenological friend, of course no sportsman, was quite unacquainted even with the name of this matchless horse†.

*. Veterinarian, April 1830, p. 205.

† See The Farrier and Naturalist, No. 1.

animals. This led Pliny to say, "that it was chiefly in the smallest things that Nature has shown the fulness of her power*."

The circulation is quicker, the pulse more frequent, the determinations more prompt in horses of short stature: by an obvious consequence, the diseases of ponies have a more acute character; they are more vehement, and tend more rapidly to their crisis.

If we take a slight survey of the different races of horses now scattered over the earth, we shall be immediately struck with many circumstances that will tend to convince us, that climate and mode of life have had as much influence on the *mental* as the physical powers of animals. We shall see that the former will exhibit as many peculiarities as the various modifications of physical structure lead us to expect.

Climate, in its most extensive sense, comprehending atmosphere and soil, has had almost unbounded influence on the *characters* of animals. Thus, in countries where the pasture is rich and always springing, they acquire a prodigious size, but are at the same time characterized by an indolent, stupid appearance; whilst those that are inhabitants of dry light soils are always better made and have more vivacious and intelligent countenances.

The activity, irritability, and sensibility, usually observed in ponies, or in horses possessing much "blood," are never found in those of the huge, heavy draught kind. Those qualities are the natural production of a warm climate, a gentle elevation of soil, and a serene and equal atmosphere. This is particularly seen in the horses belonging to the Persians; they originally descended from the Arabian breed, but, owing to the luxuriance of their soil, they have lost much of their primitive character, being larger, more fleshy, and heavier about the head, and having altogether a coarse and inanimate appearance when compared with their progenitors.

The same effect is produced in men as among the inferior animals. "The activity and acuteness of a choleric habit are seldom to be found in a region of perpetual fog, as, for instance, in Holland;" they are the natural effects of a mild climate, an elevated though gently moistened soil, and a clear sky. But the change is not so suddenly made in the human race as among brutes, the latter being nearly allied to the earth, and the food being always the same.

The local character and habitations of some animals, and their fitness for the particular region destined for their abode, seem to establish the hypotheses that Nature did not form any species of animals to be tenants of the globe at large, and that she origi-

* Nusquam magis quàm in minimis est tota Natura.—*Hist. Nat.*

nally placed each in a particular region; but by removing to different parts of the world, they have been so modified, and have derived so many adventitious qualities, that their original characters have been almost entirely obliterated. This has converted the spirit, sagacity, and animation of the ass, to dulness and indolence; the strength, spirit, and courage of the sheep, to mildness and cowardliness; the rapacious and devouring dog, into a servile and parasitical slave; and the interesting, noble and animated Arabian, into a dull, stupid, and sluggish cart-horse: the latter displaying a general dulness in the external senses, whilst the former shows that pre-eminence, both in mental and physical endowments, so characteristic of the Eastern breed.

From these considerations, it appears very plain, that there are causes sufficiently powerful to produce at a very early period of life an unchangeable predisposition to a certain temperament. Not that a complete change can be produced from a phlegmatic to a sanguine habit, but it may be considerably modified.

From entering minutely into this interesting subject, we are as much prevented by want of the necessary information, as by the immediate nature of our subject; we shall therefore submit a few examples to illustrate our position as far as the subject of "breeding" is concerned, and leave it to others for a further prosecution of the enquiry.

The ass in his native wild state is exceedingly swift and active, and has continued so in his Eastern abode:

> "Through the wide waste, his ample mansion, roam,
> And lose himself in his unbounded home;
> By Nature's hand magnificently fed,
> His meal is on the range of mountains spread;
> As in pure air aloft he bounds along,
> He sees in distant smoke the city throng;
> Conscious of freedom, scorns the smother'd train,
> The threat'ning driver, and the servile rein;"

whilst in our clime he is characterised by his dull, sluggish, and obstinate temper. The camel and dromedary are capable of the most extraordinary exertions in their native land, but those that are brought to England have a dull and sluggish appearance, and become so exceedingly slow, as to require the whip to make them travel from four to five miles an hour.

What a difference do we perceive between our domesticated ox and the bisons of the old world, the original stock of our tame cattle! The domesticated cattle in the southern provinces of Asia and Africa have degenerated the least from the original form; for, at the present time, in the stateliness of their gait and beauty

of form, they give us no mean idea of the primæval grandeur of these animals,

> "When stalk'd the bison from his shaggy lair,
> Thousands of years before the silent air
> Was pierced by whizzing shaft of hunter keen."

"Let us compare," says Buffon, "our pitiful sheep with the *mouflon*, from which they derived their origin. The mouflon is a large animal: he is fleet as a stag, armed with horns and thick hoofs, covered with coarse hair, and dreads neither the inclemency of the sky, nor the voracity of the wolf. He not only escapes from his enemies by the swiftness of his course, and scaling, with truly wonderful leaps, the most frightful precipices, but he resists them by the strength of his body and the solidity of the arms with which his head and feet are fortified. How different from our sheep, which subsist with difficulty in flocks, and are unable to defend themselves by their numbers, and cannot endure the cold of our winters without shelter, and who would all perish, if man withdrew his protection! In the warm climates of Asia and Africa, the mouflon, who is the common parent of all the races of this species, appears to be less degenerated than in any other region. Though reduced to a domestic state, he has preserved his stature and his hair; but the size of his horns is diminished."

In relation to man, certainly our sheep are much improved, but the change which they have undergone must only be considered as degradation; for, with regard to Nature, improvement and degradation are the same thing.

Having, in the preceding account, considered the different degrees of intellect possessed by the different breeds of horses, we beg to remark, that we do not coincide with those* visionaries who ascribe to brutes high intellectual powers and moral virtues; who believed that they not only possessed rational principles, but an innate religion—a kind of daily adoration of the sun and moon:—that their natural operations are performed with a view to consequences; that they are enabled to take a review of the past, and to look forward with a penetrating eye to the future. This might very justly be called the march of intellect among brutes. We believe with Locke, that some of the inferior animals have perceptions of particular truths, and, within very narrow limits, the faculty of reason; "for, if they have any ideas at all," he says, "and are not mere machines, as some would have them, we cannot deny them to have some reason. It

* Pliny, Ælian, Plutarch, and others of later date.

seems as evident to me that some of them do, in certain instances, reason, as that they have sense; but it is only in particular ideas, just as they received them from the senses. They are, the best of them, tied up within those narrow bounds, and have not, as I think, the faculty to enlarge them by any kind of abstraction." They possess reason sufficient to distinguish things around them; to know their friends from their foes, and their masters from others who do not treat them kindly:—

> "Like us they love or hate, like us they know
> To joy the friend or grapple with the foe."

They possess instinct sufficient to enable them to discriminate between noxious and innoxious food. Plants which are rejected by one, become a delicacy to another. The hog devours the horsetail and the henbane; the goat the thistle and hemlock; the sluggish cow pastures in the rich valleys, whilst the capricious goat browzes on the rocky hills.

No animal extends its industry beyond its instinct; but man alone raises his intelligence up to that of nature. Possessed of social principles in every stage of his being, at all times, and in all places, he has possessed reason and imagination, the two grand sources of invention. He is sent into the world with faculties of observation, and nearly every actual supply is withheld from him; not through the want of resources in nature, but as a bereavement peculiar to the destiny of a being, who, by his own abilities, is able to accommodate himself to his situation, and to be the artificer of his own fortunes: and they who have contemplated him in every situation have decided, that the state where he attains the perfection of his character, is that which affords him the fullest exercise of his intellectual faculties, without injury to his corporeal powers. Hence the remark of Aristotle, "That we are to judge of man in a state of advancement, not in that of ignorance and barbarity, a progress in knowledge and civility being natural to him. Thus mankind are always in a state of improvement:—

> "Were man to live coeval with the sun,
> The patriarch pupil would be learning still;
> Yet, dying, leave his lesson half unlearnt."

But all other animals, from the first creation of the species, are equal to their tasks. No animal ever introduced any new improvement, or any variation from their former practice. The movements of the beaver, the ant, and the bee, are precisely the same in every region: they are limited to the instinct of the animal. "The ox never thinks of resowing the grain which he treads out in the barn-floor, nor the monkey the maize of the field

which he plunders." Animals, therefore, gain nothing by experience; they are as accomplished in their first attempt as in the last.

> "*Reason* progressive, *instinct* is complete;
> Swift *instinct* leaps, slow *reason* feebly climbs:
> Brutes soon their zenith reach; their little all
> Flows in at once, in ages they no more
> Could know, or do, or covet, or enjoy."

It has been supposed, seeing that the minds of domestic animals have been capable of acting variously upon different occasions, that their instincts were capable of improvement. The minds of all animals are capable of receiving instruction; some have received from Nature greater capacities than others belonging to the same species:

> "Some to higher hopes
> Were destined; some within a finer mould
> She wrought, and tempered with a purer flame."

In "breaking horses," we oftentimes find that some appear to possess a singular quickness of apprehension, that enables them to acquire, by a sort of intuition, that which others can only be made to comprehend by long and laborious application. Every one is now acquainted with the wonderful performances of the horses at Astley's Theatre, but this is only the effect of education.

Man, we know, often copies the works of instinct, and so far alters them, as to render them subservient to other purposes than those for which they were originally performed. To Nature he is indebted for its sublimest lessons: born with few instincts, he was laid under the necessity of forming his understanding on her productions; and thus became instructed in the arts and sciences from plans suggested by the industry of animals:—

> "Learn from the birds what food the thickets yield,
> Learn from the beasts the physic of the field;
> The arts of building from the bee receive;
> Learn of the mole to plough, the worm to weave:
> Learn of the little nautilus to sail,
> Spread the thin oar, and catch the driving gale."

But the arts thus adopted by man are no more to be considered the works of instinct, than the education which the domesticated animal has received from mankind can, with propriety, be termed instinctive knowledge.

[To be continued.]

A SINGULAR CASE OF FRACTURE.

By Mr. FULLER, *of March.*

ON the 4th inst. I was returning from Manea, a village a few miles distant from March, upon a very high-couraged pony, about thirteen hands and a half high, particularly light about his fore-quarters, and rather stale of his fore-legs. I had not proceeded far when he suddenly started off at full speed (from what cause I am unable to say, unless the girths had got backwarder than usual): he had not gone more than about half a mile before I managed to get him into a steady gallop, at which time he fell with me as suddenly as if he had been shot. As soon as I recovered from the fall I examined him, expecting to find neither more nor less than two broken knees; but to my great surprise I found him broken down of both fore-legs. Considering it to be a hopeless case, I had him destroyed; and upon examining the legs after death, I found the tendons of the perforatus and perforans of the near fore-leg were completely ruptured, just as they pass over the sessamoid bone, which was fractured in a transverse direction, and the lower end of the metacarpal bone dislocated backwards and downwards. The sessamoid bone of the off leg was fractured in the same direction as that of the near one, but the tendons were entire. The accident happened upon a good gravel road.

June 18, 1830.

ON THE EXHIBITION OF STIMULANTS IN INFLAMMATION.

By Mr. PROCTOR, *of Solihull.*

Gentlemen,

REPORT tells me, some practitioners disapprove of my giving stimulants in the case of inflammation of the lungs, which is inserted in the February Number of "THE VETERINARIAN."

You yourselves have asked the question, whether the stimulating system was not commenced too early, and pushed too far? I answer, No.

Mr. Kimbell, who is an eminent surgeon, was an eye-witness of all that occurred: he perfectly coincided with my plan of treatment.

But should any of my professional brethren think well to attack me, or throw in their objections to that part of my treat-

ment, I shall feel pleased to defend it ; and hesitate not to say it was, under the then existing circumstances, a rational and judicious treatment.

I remain,
Your obedient servant,
THOMAS PROCTOR.

Solihull,
June 18, 1830.

SINGULAR CASES OF FRACTURE.

By Mr. TRUMP, *Merthyr Tidvil.*

THE following very singular cases of fracture have lately occurred in my practice.

About eighteen or twenty months since, a large draught horse, the property of the Dowlais Iron Company, came from his labour very lame of the near hind leg, without any visible sign of severe injury received. The foot was searched, and nothing further was done. He stood in the stable several days, and then was turned into a field, and was discovered one morning with the limb dependent, a fracture of the tibia, just above the hock.

About ten weeks since, a mare belonging to the Penydarran Company came home from a journey of seven miles very lame, with a slight mark on the inside of the thigh, a mere scratch, and very little tumefaction. There was nothing to account for such severe lameness; but a few mornings afterwards, the tibia was seen to be fractured. The front of the bone was splintered as from a blow; the main fracture long and oblique.

On the morning of Sunday last, June 6th, I was called to a case of fracture of the off hind leg of a beautiful draught horse, the property of the Dowlais Company. The horse had been very lame for seven or eight days. A slight scratch was observed inside the thigh, with a little swelling, with increased heat and tenderness, just above the hock. I had twice searched his foot during the time he stood in the stable, not being satisfied that the apparent slight injury on the thigh was sufficient to cause such severe lameness. The lameness continuing, he was turned to grass, where he appeared quite well, except that the lameness remained two or three days, when I observed the tibia broken at the part mentioned, and evidently from a blow. My object is to know, if you, or any of your readers, have met with cases which inclined you to suspect that a fracture could exist so many days without detection.

THE VETERINARIAN, JULY 1, 1830.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

THE following letter is so flattering to us, and, in the main, so much in accordance with our sentiments, and so eloquently advocating the principles which have guided us in the conducting of our (as our friend Castley terms it, and the sin will lie at the door of such men as "the Looker on," and "the Stander by") increasing Journal, that we eagerly select it as our leading article for this month. We can form a pretty shrewd guess at the writer; but, let that be. We thank him for his advice, and we will endeavour to profit by it; and he will perceive that we have of late been endeavouring to promote the object which he and we have at heart, in the very way that he points out. Few have accused us of impetuous zeal; and he may depend upon it, that we will not rashly compromise the interests of our profession, neglected and injured by its natural guardians, and undervalued by the public. The compliments which he pays us we will endeavour to deserve.

To the Editors of "The Veterinarian."

Gentlemen,

I HAVE watched with considerable interest the progress of your Journal. The vindication of the profession of which you and I are members is an object which you appear to have consistently and undeviatingly pursued—never with malignant or vindictive feelings, and even, I am told, at the sacrifice of personal interest. You appear, however, to me, like many other zealous men, to have over-rated your chance of success. You have principally regarded what the profession ought to be, instead of considering what negligence and self-interest have made it, and will long continue to make it. You have dreamed of effecting suddenly that which a long course of time can alone accomplish.

There was a period when human and veterinary medicine were equally respectable, and, in fact, were often conducted by the same person. They were both degraded and lost in the barba-

rism of the middle ages. The practice of human medicine has, however, emerged from its degradation, and vindicated its claim to public regard; and the surgeon and physician of honour and skill need not succumb to the highest rank of society.

With the veterinary practitioner, however, it has unfortunately been different. You have justly stated in one of your numbers, that the practice on the diseases of horses had fallen into the hands of those who were distinguished only by their ignorance and barbarity. Why—so had the practice on the human being, to a certain extent; for the surgeons were barbers, and the barbers were surgeons: but when knowledge began to revive, they who had influence on public affairs were, in their own persons and in the sufferings of those who were dear to them, painfully admonished of the value of the medical profession, and it was soon rescued from its undeserved degradation. The brute, however, was left to take care of itself, or, rather, was consigned to the tender mercies of the lowest of the low.

At length, (for I will confine myself to my own country), self-interest, the most powerful principle of human action, was aroused. It began to be felt and acknowledged that horses and cattle were "a valuable part of agricultural property," and which had been sadly injured by the almost inconceivable ignorance and brutality of those to whom the medical care of it was compelled to be committed; and the Odiham society took the lead in endeavouring to obtain more competent practitioners.

But what did government do? Instead of making it a measure of its own—a national concern—it suffered a joint-stock company to be formed; and it confined itself to the occasional grant of pecuniary aid. True, that joint-stock company consisted of many well-informed and patriotic men, and the regulations by which they professed to be guided were highly proper, and were evidently calculated to produce a class of practitioners qualified to benefit this valuable portion of the public property: but, still it was a joint-stock company; and these associations are liable to be abused; and this was abused—grossly abused. The patronage and the management soon fell into few hands—the public weal was forgotten and scorned, and the only object pursued in

real earnest was, to put as much money as possible into the pockets of certain individuals.

Here was the grand error; and until this be remedied, I fear that you, gentlemen, will not accomplish your laudable purpose. The veterinary college must be made a public, a government concern; and they who have hitherto contrived to pocket all the loaves and fishes, instead of being all in all, must have no voice in its management.

The veterinary college did as all joint-stock companies do; it became the property of one or two individuals, and they were anxious to make as much as they could of it; and so, perhaps, should you and I. Now what did they do? To what extent was the corruption carried? It had been very properly determined by the excellent founders of the St. Pancras College, that the education of the veterinary surgeon should occupy three years. The education of the human surgeon occupies much more; and it was rightly thought that the veterinary surgeon, the practitioner on all domestic animals, whose patients were so numerous and so varied in organization, and all of them dumb, and the symptoms of many of their diseases so obscure, could not possibly be qualified for the proper discharge of his duty in less than that time. Now, gentlemen, would it be believed, that by some witchery (for it could have been nothing less) this period of veterinary education was gradually diminished to six, five, four, and even three months; and, strange to say, as it concerned those who previously knew nothing at all about the subject. John Bull is a gullible animal; but no one could have thought that he would have been gulled to this extent. The fact was, that a very limited number could afford the expense of a three years' education; while ten times that number could continue to stay four or five months: yet, many of them, not without practising some handicraft trade at the time. The theatre was thus filled, the college appeared to prosper, the governors were satisfied, the professor was better paid, and every little farrier's son, "and every tinker and every tailor," became a veterinary surgeon, and the profession was disgraced and ruined beyond redemption.

When such a crowd of unqualified persons filled the list of ve-

terinary practitioners, medical men, and sportsmen generally, regarded the profession with contempt; and even many of our own brethren, who should have known better, and ought to have done better, became careless and indifferent to their own respectability and that of their compeers, and contributed to increase the degradation. You have spoken of the "mutton pie maker and veterinary surgeon;" I have seen the regularly dubbed Vet. with his soiled apron and blackened hands, hammering away—on what?—no; not on the shoes which were to be fitted to the feet of his patients, but in bitting the poker and mending the grid-iron of his neighbour: and, not a great while ago, I read, on one of our principal roads, "A. B. veterinary surgeon, 14 *years assistant at the Veterinary College, shoeing smith, and smith's work in all its branches.*" Now, gentlemen, if we are sunk thus low by our scandalous education, and are thus wilfully contributing to our own debasement; if the assistants to the Veterinary College are blacksmiths; let me ask you, will these medical examiners, of whose exclusion of us you speak so much, and, to a great degree, so well, will they, can they admit us among them? There are ranks of society the boundaries of which are clearly defined, and the line of demarcation rigidly guarded. The blacksmith can never be the gentleman, and can never associate with gentlemen.

I confess, Messrs. Editors, I think you have begun very much at the wrong end. In the present state of the veterinary profession, you cannot establish its just claims to public regard. You must change the character of the profession itself. You are doing so to a very considerable degree. Let this be your sole object. Do not be deluded from it by aiming at that which is impracticable. Labour to promote the spread of veterinary science, and the improvement of veterinary character. Let the examining committee alone for a while; nay, even although they have the *impudence* to tell us they are "the best constituted committee in the world." Make veterinary surgeons what they ought to have been, and they will, in due time, occupy the situation which they ought to fill. You have wrung from the Professor the announcement, that "no veterinary pupil shall, in future, obtain

his diploma until he has been at least twelve months engaged in the study of the profession at the College." This is something, if it be strictly adhered to. I am told, that even this twelvemonths' residence has not been, since this announcement, in every case required. It is your duty to find out this, and report it, and expose it as it deserves. But you must not be content with this. Twelve months alone devoted to the study of the anatomy and diseases of *all* domestic animals (for such was the wide range of the pupil's education, and such it must be again)! this carries absurdity on the very face of it. You must go back, or force others to do it (I do not flatter you when I tell you that the hold which you have justly acquired on the good opinion of the profession and the public will enable you to accomplish this, if you fearlessly do your duty); you must go back to the original time, at least, with those who had no previous preparation,—the time in every veterinary college in Europe but the English one. You must trace and expose the causes, and motives, and manœuvrings which led to the abominable deviation from the original period of education. You must obtain for the student, not only the lengthened period of education which was required, but the kind of education which will fit him for the discharge of the whole of his duty, and prepare him to occupy a higher rank in society—that education which the founders of the College excellently traced, but which the present managers of it have altogether forgotten; then, perhaps, we shall have fewer students, but they will be better qualified; the very expense of their education will be a guarantee that they have not been grooms or porters,—that they did not come from the lowest of the low: and be assured, gentlemen, that then, and then only, you may hope to accomplish the objects for which you are now somewhat prematurely contending.

I read with some interest the account of your last dinner. There was a sentence in one of Mr. Percivall's speeches which contains, with a little addition, the very pith and marrow of my meaning. "So long," says he, "as the profession is made up of such an heterogenous mass, so long is it impossible that its members can harmonize and amalgamate. It can only be when

respectability and education shall be found to be universally diffused among us, that any thing like professional harmony can exist." I would add, "or the objects at which you aim, and which I devoutly wish to see accomplished, can be secured." Therefore, gentlemen, go on steadily. *Festina lente.* Your Journal will diffuse much useful knowledge among your brethren. The manner in which it is conducted will command respect even from those who ought not to have been admitted among us, and will incite them to endeavour not to disgrace that connexion which they have been so fortunate as to form; and those whose negligence and misconduct you attack, while they fear and hate, will secretly esteem you. Endeavour to improve the system of college education. Fearlessly, but without malignity, expose every departure from the original design of the institution—every violation of public promise, every sacrifice of a valuable profession to self-interest, and every endeavour to perpetuate the debased condition of the veterinary practitioner.

There is a knot of practitioners now in the metropolis, worthy of their profession. I am told that the greatest cordiality exists among them. Let that union be cherished. Let no professional jealousy ever disturb it. There are others scattered through the country; and there are many army veterinary surgeons who are an honour to the name they bear. Let these men be gradually approximated and bound together, and let the tie that unites them be—"the cause of the profession." Let the Veterinary Medical Society continue honestly devoted to the pursuit of science. I do not, indeed, think that, of late, its discussions have improved; they have been too conversational, and too personal: however, let the Society be honestly devoted to the pursuit of science; let more of those truly valuable papers which have enriched your Journal appear; let medical men, and the better classes of the community, be convinced that there are those among us "with whom it would be no disgrace to associate;" and things will, in due time, work their way, and all will be as you and I ardently desire. Such an association, or any society formed by men of such a description, would, in the language of Mr. Field, "be the nucleus round which the veterinary profes-

sion will gradually be gathered, in which the opinions of the general body of practitioners will be expressed, and the bond of union among all who have the improvement of the profession at heart."

Then, gentlemen, go on and prosper. Many good wishes, depend upon it, attend you; but do not lose future good by attempting that which is at present beyond your reach. Improve the profession; improve the education of the student; render it less easy for those to creep in among us, who, by unjustifiable management, have been the cause of our debasement; be the uncompromising foes of corruption; the stern but not the factious enemies to all that is unfriendly to our profession; and if you do not succeed in the full accomplishment of your purpose, others, treading in your steps, will obtain all for which you are contending, and your labours will be held in grateful recollection.

I can truly subscribe myself,

Your sincere well-wisher,

A STANDER-BY.

Review.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

Of Warranty, and the Defects constituting Unsoundness in Domestic Animals. By J. B. HUZARD, *Jun.* V. S.

(Continued from page, 355.)

M. HUZARD follows up these observations with saying—how difficult and obscure our investigations after the seat and nature of lameness often prove; and how very necessary it becomes, in almost all cases, to remove the shoe and examine the foot; "even in cases," he adds, "where the cause and seat seem both apparent." Nothing," continues our author, "is more insidious than the symptoms of lameness: although no heat may be discoverable in the foot, although one might swear the lameness had its seat any where else, yet how often, after all, is one surprised to find the lesion in the foot." This sensible remark, the too sure fruit of experience, we beg to stamp with the humble seal of our own past practice, regarding (as we ever have done) as

little better than downright quackery, the affirmations of those who pretend *unerring* diagnostics (even between the foot and the shoulder) to be collectible from action alone.

" *The second kind of Lameness,* is that which (the cause being over-work in the joints) is renewed by exercise, but relieved by rest. In some cases, a few hours of repose suffice to make the lameness disappear: in others, the effect requires as many days. Among the French dealers this is called *boiterie à chaud;* in contra-distinction to the last species, which is named *boiterie à froid.*"

" In such a case as this, the veterinarian has only to pursue the same course that he did in lameness of the first kind: and two days will suffice for the trial."

" Instances of this kind, however, are not, many of them, so simple. The horse, instead of showing lameness immediately after work, may not disclose it until the next day; or, should exercise have brought on the lameness, it will require twelve or twenty hours of rest to set him right again. This will give it the appearance of a casual lameness, and, indeed, render the distinction very difficult."

"This forms a trying case for the arbitrator. The buyer contends that the lameness is an old affair: the seller that it is recent, and has arisen in the other's hands."

" The first step to be taken towards an examination, with a view to the decision of the question, is to place the animal in the hands of indifferent parties at livery; and then to make visits, as often as necessary, accompanied by both the parties concerned, for the purpose of examining the animal in the various states of repose and action, also after such changes, at various intervals: which examinations, connected with what passes in the discussions between the parties themselves, will serve to clear up so many doubts, that, in the course of time, the arbitrator will be enabled to come to a final adjustment of their disputes."

" *The third kind of Lameness* is one which only shows itself when the horse is put to some particular work: as, e. g. some horses go sound in harness; but manifest lameness whenever they are mounted and exercised. Here, the purchaser can return providing he never saw the horse ridden during trial: for, if he did, he ought to have discovered the lameness at that time; and consequently, cannot afterwards obtain redress."

" *The fourth kind of Lameness* is also one which alternates; but which, being caused by a self-evident defect, ought (whether it existed or not at the time of sale) to have come under the consideration of the purchaser. A splint interfering with the movements of the tendons, or a spavin may produce such an effect.

But, since every splint or spavin is not productive of lameness; and since a man might make no objection to such a defect unattended by lameness, while he certainly would, did it exist; and since, also, it requires a person conversant in the animal structure to distinguish between the likelihood of such events, it seems most fitting to make all these cases for restoration: and the courts have commonly made them pleas for return."

The fifth kind of Lameness consists in those chronic diseases of the foot which every now and then occasion lameness that may be concealed at other times by shoeing. Such cases come under the jurisdiction of law No. 1., even although lameness should not be actually present at the time."

This view of the *laws* of *lameness* (if we may so name them) differs in some important points from the one that has so very recently been presented to us at home: a careful collation of the two, may enable us to draw up another; and one, perhaps, possessing some advantages over both.

Now that we have arrived at the subject of "lameness," we embrace the opportunity, as a favourable one, to make a few comments on that part of French veterinary jurisprudence which legislates, that "Any lameness (or other defect) perceptible at the time of sale, or that may arise posterior to the sale, *cannot form a plea for return:* that lameness (or other defect) alone comes within the pale of the law, the cause of which existed *prior* to sale, but which, itself, was *not apparent* at the moment the sale was made."

Most assuredly, a person coming into court to plead for the return of a "warranted" horse, because he found, on the purchase being completed, that the animal possessed only *three* legs in place of four (passing, for a moment, the supposition that any one would be fool enough, or rogue enough, to risk such an imposition), must show such a ridiculous and silly plea for return, that the jury would perhaps be justified in nonsuiting the plaintiff: but, to lay it down as a *law*, that what "is *perceptible* at the time of sale cannot form a plea for return," is, in our humble estimation, not quite and altogether reconcilable with equity or justice; at least, not on the ground of *bare* "perceptibility." We conceive that the law ought rather to turn upon the *actual knowledge of the defect* by the purchaser "at the time of sale" (either from its self-obviousness, or some other substantial reason), than upon its own "perceptibility;" because, what is perceptible to one person may not prove so to another, or even to the same person under other circumstances.

English law seems to have passed by this point in directing all its force upon the simple fact—whether the animal, being

"warranted sound," *actually proved so or not*. And very properly has our law passed over a point which, in the light we have just set it, must appear so valueless and unimportant. But if, with the French, we are to regard the "*perceptibility* of the defect itself," the question assumes, at once, a degree of importance, and becomes fraught not only with interest, but with an intricacy often beyond our art to unravel. Who, for example, is to determine whether cataract in every stage, or spavin in all its forms, or lameness, from whatever cause, in all its degrees, are to be accounted "perceptible" defects or not? Who is to decide whether such a one, or such another person (their qualifications and experience in such concerns being widely different) ought or ought not to have observed such defects at the time of purchase? In fine, we repeat, we cannot see what help this notion of perceptibility affords us, unless it be intended to denote the *actual knowledge* of the defect by the purchaser; a case in which a man would hardly make the purchase at all, or, at least, not at a price demanded for a sound animal."

Glanders.

"In confirmed cases there can be no doubt or dispute on the subject: in others there may occur both. A horse may have a discharge from the nose; may have painful enlargement of the glands or cellular structure underneath the jaw; and the purchaser, out of pure apprehension, may wish to return the animal, although there may be no certainty or probability even of the glanders ensuing. Nevertheless, the veterinarian, knowing under what variety of forms glanders may lurk, cannot decide that the bargain is valid, or that the animal is not glandered: he will require that the animal be properly treated for a fortnight, during which period the malady, should it be but simple catarrh, will pass off; or, should it have been but the mask of some other affection, the latter will probably develope itself. Should it not, however, in the course of that time, a few days more must be allowed: after which simply the continuance of the disease (doubtful as it still appears) renders the subject *strongly suspicious;* and, for that reason only, by the law returnable. On the same principle, that it is illegal to offer a horse for sale that is only *suspected* of having glanders."

Farcy.

"The law framed especially for glanders, on account of its contagiousness, also holds good in cases of farcy. This disease, in general, admits not of any difference of opinion regarding its existence: should, however, any simple cuticular eruption assume

so much the appearance of farcy, or *vice versâ*, as to render decision at all difficult or dubious, the protraction of a few days will enable the practitioner to decide."

Roaring.

"If roaring were an accompaniment of ordinary respiration, the evil would be discoverable at the time of purchase: but, in consequence of its being commonly attendant on exercise or exertion alone, the purchaser who does not put the animal to such exercise or exertion cannot be aware of its existence. In every case, roaring diminishes the celerity and duration of the services required of the animal, and consequently depreciates him. Sometimes it renders the animal incapable of performing any work at all. A horse is most unquestionably returnable for it."

Specific Ophthalmia.

"A disease that attacks in paroxysms an organ so important as that of vision; one that, during its intermission, leaves no trace behind it; and one that, nevertheless, will return and destroy the eyesight; coming within the scope of law No. 1, renders the horse at all times returnable."

"The only difficulty that presents itself, is, in many cases, to determine the specific nature of the ophthalmia: it may so resemble simple ophthalmia, that the distinction may occasion embarrassment, from which we can only be relieved by a due consideration of the history, symptoms, and stages of the disorder. But, should long and attentive watching fail to prove satisfactory, and the paroxsym in the interval disappear, another attack must be waited for; or, should none occur, a decision be given accordingly."

Amaurosis.

"Since this is an affection which much depreciates the animal, and one that is not perceptible at the moment of purchase, unless it be to a professional person, in consequence of the organ itself appearing sound to any one else, it comes within the law of unsoundness."

Defective Teeth.

"To be fit for our service, a horse ought to be in possession of his full natural powers; these powers cannot be sustained without perfect nutrition, and nutrition may be rendered imperfect from some defect in the operation of mastication."

"In some horses the molar teeth, instead of wearing down upon a level, are reduced by friction to a surface inclining from within outwards: the inner border of the lower grinders remains elevated, while the outer is reduced down very low; the reverse being the case with the upper grinders. The result of which change is, that the bruised food, instead of passing into the middle of the mouth, falls between the teeth and the side of the cheek, and there remains, or else falls down and escapes out of the mouth again between the angles of the lips. And not only does this deformity render eating troublesome to the animal, but, from the food acquiring a fetid odour from its detention in the mouth, gives him a distate for aliment altogether. It is a defect that may not be perceptible at the time of purchase, for want of an examination of that especial kind which it is not usual (and which it would indeed be difficult) to make; it is a defect which diminishes the value of the animal, whose services it affects: and on these accounts, my father and myself have never hesitated to pronounce it to be an unsoundness."

Broken Wind.

"Some people are of opinion, that, because this affection is perceptible at the time of purchase, the horse ought not to be held returnable for it. The following facts, however, militate against such a decision."

1st. "Although broken wind may be perceptible at the moment of sale, it may not prove so to inexperienced persons; and it is not to be supposed that a purchaser can always have a veterinarian at his elbow. Besides, this affection at its commencement is difficult of detection even by a veterinarian."

2dly. "If the purchase be made of a private individual, it is sometimes possible to obtain such an examination of the animal, in a state of rest and while he is feeding, as to discover the disorder; but at a dealer's, or in a market, this cannot be satisfactorily done. Besides, were not broken wind reckoned an unsoundness, commerce would in such situations be greatly impeded; while now, knowing that it is so, the dealer makes his purchase after a very cursory inspection, and without hesitation."

3dly. "The motion of the flanks, however apparent it may be at one time, may at some other subside, if not altogether, at least in a great measure. A broken-winded horse, for example, under certain circumstances, fed for three or four weeks upon green meat, either in the stable or at grass, acquires such regularity in his respiration, that he would appear to be quite sound; while,

let his food be changed to dry meat, in three or four days his breathing will become as much embarrassed as ever: the interval of remission, however, may be seized on as the favourable moment to dispose of the animal. But, not only green meat; dry soft food will have the same effect."

"Furthermore, there are medicines that will take the effect also: and a dealer might have recourse to them to alter the respiration, and then attribute the alteration to some other cause—as to a cold, or to fatigue, &c."

"Some persons have contended that broken-winded horses ought not to be considered unsound, because under many circumstances they can do all that is required of them. But, if they can work, the duration of their work is at all times perceptibly diminished: so that if a man buys a horse six or seven years of age, and calculates on his services for six or seven years longer (barring accident), and pays a price accordingly, should the horse turn out broken-winded, his malady might so increase in the course of a few months, as to render the animal unfit for the purpose for which he was bought: the conclusion naturally is, that the purchaser has been deceived—that he would not have paid so much for the animal, had he been aware of his defect."

"Should it be a dealer who has purchased the horse, he has bought him for re-sale, and for gain; and should the animal turn out broken-winded, he will lose, in place of gaining, upon his bargain: in which case, the horse certainly cannot be said to have answered the end for which he was purchased."

"There may arise also (it may be said) some doubts as to the altered or embarrassed respiration which amounts to broken-wind. But not, I apprehend, to an experienced person: to him it always indicates a particular affection. And even if that be not discoverable, it is sufficient for him that it is the external symptom of internal disorder; although the general health and condition of the animal may appear unaffected."

"Many acute affections cause the animal to heave at the flanks. The first inquiry to be made, is, whether the horse has his health or not; because, in that case, his disordered respiration is for certain of a chronic nature: but, should the animal be in ill health, of course he must be considered as a sick horse, and he will require treatment before his case can be decided on."

"An appalling difficulty, however, of this description may present itself. A person buys a horse, for instance, and afterwards suspects him to be broken-winded. A veterinarian is called in, finds disordered respiration, and the animal, otherwise, in ill health. By care and proper treatment the animal recovers his health, and his respiration becomes tranquillized; and the veterinarian then

pronounces him to be sound. After working him for eight or ten days, however, the heaving-at-the-flank returns, increases, grows worse, and the animal dies. Dissection shows pulmonary or pleuritic disease of long antecedent date. The veterinarian is blamed by the buyer of the horse—his reputation is even attacked: nevertheless, he ought not to suffer this to disturb his conscience; he knows well that there exist circumstances over which science has no controul, and, moreover, that

"To err is human;"—

it only serves to teach him how much caution such decisions demand."

Affections of the Chest.

"It often happens, however, that a veterinarian is not sent for until after the horse is dead: and of all the causes of death, the most are seated in the chest."

"Simple acute inflammatory affections marked (if pleuritic) by redness of the pleura, injection of its bloodvessels, effusion of a reddish, turbid or even limpid fluid into the cavities, and the production of false yellow unsubstantial membranes lightly adherent to the opposed surfaces; or (if peripneumonic) by redness of the pulmonary tissue, even approaching to blackness, in consequence of the congestion of arterial or venous blood, or by some little increase of density exteriorly, although the texture may prove more easily lacerable without its pleura: such appearances, I repeat, cannot form a plea for return, unless the purchaser can prove that the animal was in ill health prior to sale, and to that degree, that he could not withstand the trial he was then submitted to."

"On the other hand, these maladies may be attended with chronic organic lesions; as, for example, when one finds, besides the above appearances, the surfaces of the pleura connected by ligamentous bands, strong and difficult of laceration; the pleura thickened, its surface rugose, and in places indurated; its unconnected surface presenting small reddish, loose filaments, from one to two inches in length; the pulmonary tissue bestrewed with tubercles, or else indurated, hepatized, greyish, whitish, or perhaps converted into a kind of muscular substance; or presenting ulcerations or abscesses containing a whitish, semi-solid matter; or a greyish matter, liquid and infected: with such appearances, the veterinarian may pronounce that the animal has died of an affection whose seeds were sown prior to the sale."

"But chronic affections of the chest almost always destroy, by giving origin and intensity to some fresh attack of inflammation;

so that appearances of both acute and chronic disease exist at the same time. Such cases, in my opinion, constitute unsoundness, on the score of the existing chronic disease, and render the animal, though dead, returnable."

"There are veterinarians who object to the chronic disease being the *cause* of the fresh attack, though they admit that one adds to the intensity of the other. But, for my own part, I believe (and I shall find many veterinary and medical men of my opinion) that most recent diseases of the pleura and lungs, arising in an organ already altered in structure, are almost always the offspring of that alteration of structure: that is to say, one would never have taken place but for the existence of the other; and consequently one is the principal if not the immediate cause of the other."

"A considerable difficulty however arises when the chronic disease is seated in one part, and the fresh attack takes place in another; at the same time, where one (though its origin cannot be ascribed to the other) has in all probability been, by sympathy, greatly aggravated by it, and in consequence of such aggravation has proved fatal. I, myself, have been in the habit of making such subjects returnable: although, perhaps, it is a far better practice (where any thing of the kind is suspected) to prevail upon the parties to share the loss, and to have this agreed to in writing before the *post-mortem* examination is set about."

Such are the views and opinions of two experienced and clever French veterinarians (M. Huzard and his father) on the subjects of "soundness" and "veterinary jurisprudence," which have, in the course of the past winter, occupied more general attention among ourselves than, perhaps, at any antecedent period. We have chosen to give these accounts at considerable length, because the importance of the subject, and our dearth of information on it, both seemed to demand this of us: we trust they will, to say the least of them, furnish *materiel* for further reflection; and we shall feel at all times rejoiced to aid in diffusing any fresh light that may be elicited therefrom.

Veterinary Obituary.

The mourned, the loved, the lost—too many! yet, how few!—BYRON.

GEORGE PEARSON, M.D. F.R.S.

WE have often accused ourselves of unpardonable negligence for not including in our obituary this name "venerabile et clarum."

Wherever the members of the veterinary profession are scattered, there is not one to whom the memory of Dr. George Pearson is not dear.

He was born in 1751, and descended from a most respectable family near Rotherham, and from which he inherited considerable landed property. He studied at Edinburgh and Leyden, and, having obtained his degree, settled in London. He was nearly fifty years physician to St. George's Hospital, and almost forty a member of the Royal Society. Having become a lecturer on chemistry, the materia medica, and therapeutics, he kindly gave gratuitous admission to the pupils of the Veterinary College; and there were no lectures on which they attended so punctually, with so much delight, and with so great improvement. There was a peculiarity in his manner of lecturing, sometimes, perhaps, exciting a smile, but amply redeemed by abundance of important matter, clearness of arrangement and expression, the energy of a mind full of its subject, and desirous to communicate instruction; and these occasionally relieved by a quaintness of humour peculiarly his own, and perfectly irresistible. When the youngster who was not accustomed to him, after waiting five or ten minutes beyond the time, saw him enter the lecture-room, with his shirt collar and the knees of his breeches unbuttoned, and his stockings half way down his legs, and his face and hands guiltless of ablution, and his hair innocent of the comb; and the moment he had entered the door, and being behind some of us, stooping down to arrange his lower habiliments, and with his head almost to the ground commencing his lecture, and often suffering several minutes to elapse before he quitted this situation; and then, when every thing was set right, advancing towards the centre of the room, talking all the while, and that appropriately and well, and, still talking, beginning to shake one bottle and examine another mixture, and add to another solution, and read one memorandum, and examine the superscription of some letter, and then, suddenly throwing his spectacles high on his forehead, or holding them in one hand, and placing the other in the waistband of his breeches, which knew no braces, and his eyes fixed on vacancy, and repeating the latter part of his last sentence at least a dozen times, and then quietly pursuing his subject as if no interruption had occurred: when this scene was acted, as it frequently was, a smile would irresistibly steal over the countenance. Presently, however, when all was arranged, and he began to throw himself into his subject, and gave so logical, and yet so simple, so erudite and comprehensive, and yet so perfectly natural and consistent and intelligible a view of the matter, respect speedily succeeded to a feeling that might have bordered on ridicule.

Dr. Pearson was an excellent chemist. He was mainly instrumental in introducing among us the French nomenclature, which gave so wonderful a facility to the understanding of chemical combinations and principles. He gave the first analysis of the celebrated James's powder, which, or a compound almost identical with it, the Antimonial powder, occupies a place in the veterinary pharmacopeia. His experiments, more than those of any other man, tended to confirm Mr. Cavendish's important discovery of the decomposition of water; yet, we confess, that his chemical lectures were not always satisfactory to us: there was a slovenliness about them—a want of accuracy—a dearth of experiment—a repetition of common-place and cheap experiments, yet often compensated by profound views of the laws of chemical affinity, and the grand phenomena of nature.

It was when he spoke of the laws of health and disease, the medical history of drugs, the mode in which they act, the effects which they produce; when, without entering into minute details which would soon be forgotten, or, if remembered, would be inapplicable, he endeavoured to elucidate those principles to which all might be referred, and an adherence to which would secure us from material error; and when he would frequently illustrate those principles by anecdotes characteristic of himself, sometimes, indeed, a little free, but always to the purpose, and impressing on the mind many an important axiom, the recollection of which would otherwise have been evanescent; then it was that we were interested, delighted, and improved. And when to this he added uniform, and we may almost say parental kindness; when the question of the merest tyro received a courteous and satisfactory answer, a warmer feeling than that of respect arose in our minds.

Dr. Pearson was early appointed a veterinary examiner. His attention then occasionally wandered to veterinary subjects, but he was not always successful in his investigation of them. In his enquiry into the value of cow-pox as a substitute for small-pox, influenced by professional jealousy, he did manifest and gross injustice to Dr. Jenner. The friends of Pearson deeply lamented his conduct in this particular. His letter to Arthur Young on the rot in sheep, added another striking instance to the too many on record of the folly which attaches to the cleverest men, when they write on that of which they have no personal experience. Some of us, perhaps, a little doubt the accuracy of his experiments on the *fatty* frog, as our Professor used to call it, and the result of which was, in the language of the chairman of the dinner of 1828, that "the devil a bit of fat had he found in it."

Dr. Pearson was constant in his attendance as an examiner, and sometimes a little hard upon the candidate, especially if he

had not punctually attended the doctor's chemical lectures, or had not attended on them at all : his usual mode of examination, however, was such as to inspire confidence in the pupil, and was afterwards remembered with gratitude. Many candidates would have been rejected, had it not been for his kind interference, and he was never the first to condemn.

Dr. Pearson, so far as he was able to comprehend them, and had not been mystified by the systematic delusions of others, was an ardent and staunch supporter of the interests of the veterinary profession. His language at the last dinner at which he appeared, and which may be considered as his last words to us, will not speedily be forgotten—they marked his feeling of what the College ought to be. "He said that he was happy in his own name, and that of his brother examiners, to testify his satisfaction at the attainments of the pupils, and little more was wanting in the veterinary school but *more time for the labours of the students*. He considered the veterinary establishment as a new æra in science ; and predicted that human anatomy and physiology would be more indebted to the Veterinary College than to any other source since the time of John Hunter." He spoke of us not as what we are, or had been, but what we ought to be, and what we will be.

When a report of the proceedings at that dinner was sent to the doctor, he favoured us with a reply which finds a place among some of our most valued documents. "Your account," says he, "of the dinner, and your statement of what the College ought to be, is written with much candour and dispassionately ; but you must not suppose that it will suit every man's palate. That the mode of education may be most materially improved, I think cannot be doubted ; but the difficulty will be when poor Coleman falls, and which I hope will not be soon*, to find a man of practice and of science to carry into effect your plan, or a similar one ; to do that which the alteration of circumstances and the progress of time and of knowledge require, and with sufficient authority to resist those who would wish to do more. Sincerely wishing your success, I remain your's, ever faithfully,—G. Pearson."

We can confidently affirm, that Dr. Pearson was friendly to our claim to occupy a place at the examiners' board. *He has told us so.* He told Mr. Goodwin senior the same ; and we recollect with pain, that when he was challenged on this point by Mr. Goodwin, at a meeting of the subscribers, a certain gentleman hastily rose, and whispered something in the doctor's ear, who speedily afterwards quitted the room. His heart was with

* Mr. Coleman had at this time been long and seriously ill.

us, but he was out-numbered, out-voted ; and he had not, on that occasion, the courage to maintain his opinion, although founded on truth and justice.

After that, and a little before his decease, a conversation took place between him and a veterinary surgeon on the same subject. For the perfect accuracy with which that conversation is reported, we can vouch. It is contained in THE VETERINARIAN, vol. ii, p. 101; and is so much to the purpose, and so characteristic, that we cannot refrain from quoting it:—"A few months before his decease, in an interview and conversation I had with him on the subject of the examining committee, he fairly put the question to me—what *my* sentiments were. I answered him, that I had at that moment a sick horse in my stable, which, if he would step out and examine, and tell me what the disorder was, and how I was to treat it, he would, by so doing, enable me to form my opinion on the subject. The Doctor smiled, and replied, that I must be aware he was not competent to any such duty. 'Then pray, Doctor, how comes it that you, and you alone, are competent to examine and confer a diploma on a *veterinary* pupil, whilst I remain ineligible for any such office?' The Doctor, unprepared for this home-thrust, again smiled, and, with his wonted humour, facetiously returned, 'Ay, ay, you have me there!' Expressing himself perfectly satisfied with my rejoinder, he quitted the subject."

The circumstances of Dr. Pearson's death were peculiarly melancholy: it took place at his house in George Street, on Sunday, November 9, 1828, in consequence of a fall down stairs. Notwithstanding his great age, Dr. Pearson was indefatigable in the pursuit of study, and sat up every night later than any person of his family. On the night preceding his death, he remained, as usual, the last up. When the footboy got up and came down early on Sunday morning, he found his master's candlestick and the extinguisher at the top of the first flight of stairs, and on going down lower, he heard a loud breathing, which alarmed him so much, that he ran back to the attics for a fellow-servant, with whom he returned to ascertain the cause. On reaching the bottom, they discovered their unfortunate master on the ground at the entrance of the hall, breathing still heavily, but senseless, and with a large wound on his head, from which a quantity of blood had flowed. He was taken immediately to his bed, and medical aid procured. In the course of the day he recovered his consciousness, but expired towards the evening. It is supposed that he was seized with giddiness, and fell backward on reaching the top of the first flight of stairs, and rolled down to the bottom without being able to call for help, or without the noise of his fall being heard.

Dr. Pearson was an excellent classic, and well versed in English literature. Shakspeare was his favorite study, and he is said to have left some ingenious commentaries on the works of that immortal bard. He has been accused of somewhat penurious habits; but he was most liberal at his table, disinterested in his friendship, cheerful and jocose in conversation, and truly attached to his family.

We conclude this sketch of the late Dr. George Pearson, for some of the non-veterinary portion of which we are indebted to to "The Gentleman's Magazine," in the language of "Non-eligible:"—"Peace be unto his venerable manes. Blessed be his much and long-to-be-respected memory. In him, medical science has been deprived of a diligent, zealous, and successful labourer; in him the veterinarian has lost a true, a long-tried friend."

Miscellanea.

Gentlemen,

I SEND you a copy of the first Diploma ever granted by the Veterinary College. It is of itself curious, both from the circumstance of its being the "very first" document of that description, and as a proof at how early a period the original regulations of the College were violated: as such, it may probably prove worthy of insertion in your interesting "Miscellanea."

Your's,

June 20, 1830. PHILO-VET.

Veterinary College.

Twenty-second day of April, 1794.

These are to certify, that Mr. Edmund Bond has attended the Veterinary College as a Resident Pupil for Eighteen Months; and having been examined by us, we consider him as qualified to practise the Veterinary Art.

Henry Cline.

M. Baillie.

John Abernethy.

Astley Cooper.

Edwd. Coleman, Professor.

Wm. Houlston.

Wm. Mounshor, Secretary.

Everard Home.

(A Copy.)

A NEW USE FOR CASTOR OIL.

A GENTLEMAN and his lady lived in the neighbourhood, who, as it sometimes happens in inland places where there are no resident doctors, when any of their tenants were sick, recommended some nostrum, and afforded the medicine at their own expense. This gentleman, having been in London, bought several gallons of castor oil, to be served out as occasion required. Upon his arrival in Scotland, all the nobility and gentry who were acquainted with him came to dine with, and congratulate him on the success of his mission, and the accession of several thousands a year to his income. When all the genteel families in the neighbourhood had paid their compliments to him in this manner, he and his lady found leisure to hear the complaints of some of the sick cottagers. They found that some castor oil might be useful to some of them; and ringing for John, the servant, desired him to bring some. John replied that it was all done. "Done!" said the gentleman, "do not you know that a keg of it lately came from London?" "Yes; but if it please your honour, that one is done too." "How can that be?" replied the gentleman. "Why, sir, you have had such a round of company almost every day since it came, and always salad at table, that it is all gone." "Don't you know it is castor oil I want, and that the name is written in large letters on the cask?" "So it is," replied the servant; "but as your honour knows it was for the CASTERS and dressing the salad, it is all gone." "O, you scoundrel; now I understand you: so you have been dressing the salad with it all this time. But, harkee, John; for God's sake do not mention it." The truth is, all the company were highly pleased with the salads, and had often spoken in their praise; and the gentleman and his family had never in their lives a better summer's health, nor the people who visited him.— *Travels in Scotland, by the Rev. J. Hall,* vol. ii, pp. 462-463.

VETERINARY MEDICAL SOCIETY,

APRIL 8, 1830.

Mr. W. PERCIVALL, *in the Chair.*

WE present our readers with a mere abstract of the discussion on Mr. Green's paper on Fever.

Mr. *W. Percivall* imagined that the subject would be most conveniently and profitably divided into a few distinct heads.

The first question would be, whether the horse is subject to idiopathic fever, and this hinging on what we determined fever to be. He considered it to be increased action of the heart and arteries. The cold fit, and the shivering fit, and the succeeding hot fit, although frequently accompanying it, were not essential to it.

Mr. *King*, senior, said that the sweating fit of the human subject was not essential to fever in the horse: indeed, it seldom appeared, unless brought on by profuse bleeding. The cold fit was more common; nothing was of more frequent occurrence than complete rigor, succeeded by unnatural warmth, and that followed by determination to some particular part.

Mr. *Mavor* thought that no person who had seen much practice could doubt as to the existence of simple fever in the horse. It was sometimes preceded by the shivering fit, but much more frequently existed without it. The symptoms, so far as he had regarded them, were dulness, hanging of the head, staring coat, quickness of pulse without much alteration in the respiration, until the fever had existed some time. When he saw the shivering fit, he always suspected inflammation of the lungs, or speedy determination to that organ.

Mr. *King* observed that the veterinary surgeon had not always the opportunity to observe the early rigor. He had often seen the animal shaking from head to foot.

Mr. *Henderson* had very lately seen a horse under a complete shivering fit, which was quickly followed by swelled legs. It was his opinion, that either the shivering fit immediately preceded some local affection, or that the illness of the horse was speedily removed by bleeding and physic.

Mr. *W. Percivall* remarked, that there could be no doubt that the shivering fit was occasionally observed; but the question was, is it essential to fever? Is it the usual symptom of fever? Does not fever often run its course without the shivering fit?

Mr. *Slocombe* had often seen the shivering fit and the whole indisposition yield at once to a copious bleeding; and he had seen it almost as frequently disappear without medical treatment.

Mr. *King* acknowledged that he was not a friend to much bleeding in the early stage of fever. He contented himself with cooling and diuretic medicines, or more frequently a mild dose of physic. The local determination alone imperatively required bleeding.

Mr. *W. Percivall* recollected having seen, in one of the French journals, an account of a case of regular intermittent fever in a horse. He would ask, is fever contagious?

Mr. *King*.—Only under the catarrhal form.

Mr. *W. Percivall*.—The distemper is considered to be contagious by many practitioners. Is it so?

Mr. *Mavor* thought that it was decidedly so. Some horses went from his place into Herefordshire. One went a different road from the others, and contracted distemper. The others got safely home, and continued well until the other arrived, three weeks afterwards, not perfectly recovered from the disease. He was placed in the same stable with them, and every one became distempered.

Mr. *Spooner* remarked, that it was of consequence to determine what were the symptoms of pure fever, as distinct from local determination. He believed in its existence, but he would be glad of information on this point. He believed that it was often confounded with inflammation of the feet and of the lungs. It was at first simple fever, but it soon degenerated into affections of these organs.

Mr. *Youatt* recollected the time when it would have been deemed ignorance and presumption to affirm the existence of simple fever in the horse; and now there did not seem to be an individual in the Society who had any doubt about its existence. This was a decisive and pleasing illustration of the progress of veterinary science. The fact was, that the occasional accompaniments of fever had been mistaken for its essentials. The chairman had rightly defined fever to be increased action of the heart and arteries; perfectly consistent with the theory of Dr. Clutterbuck, to which Mr. Green had alluded in his paper, that it was primarily an affection of the brain; and a perfect definition of it, if the Doctor had said that it was increased or morbid energy of that system of nerves—the ganglionic—on which the heart and arteries, and all the vital organs, depend for their power of action. Inflammation was increased action of particular portions of the circulatory vessels—fever, general increased action.

He did not see how Mr. Spooner's question could be answered in a debate like the present; but to the person who had made himself acquainted with the various symptoms of local inflammation, there would not often be difficulty in ascertaining when the general affection had yielded to intenser local action; when the weakest parts of the frame, the lungs, in the horse, unable to support the general excitement, had taken on a peculiar morbid action.

Mr. *W. Percivall* imagined that the principal difference between fever in the human being and the horse was, that in our patient it was so apt to run into mere local affection, and that, in the majority of cases, an affection of the lungs. The main object of the practitioner, and the best proof of his skill, was the prevention of this local determination.

Mr. *Mavor* asked what were the symptoms, or what the state

of fever, which Mr. Green had said he could subdue without bleeding.

Mr. *Green* replied, that he should only use the lancet in the severer forms of the disease, and where the arterial action was very considerably increased.

Mr. *W. Percivall* observed, that bleeding is the only means by which we can produce an immediate effect upon the system. A purgative will not produce its nauseating or depleting effect before some hours have elapsed. If the first attack be severe, it is essential to bleed. Indeed, in every case, he would say that bleeding is proper: no harm can result from one moderate bleeding, and that local determination may be prevented which would otherwise take place ; at all events, our employer would suspect our judgment, if we did not have early recourse to bleeding in fever.

Mr. *King* only meant to say, that it is not prudent to bleed largely at first. The powers of the constitution are sometimes broken down by a sudden and excessive depletion. When the pulse began to rise, he would bleed as readily as any man.

Mr. *Spooner* asked what was the state of the pulse at the commencement of fever ?

Mr. *King*.—Very different in different cases ; generally small, hard, and often not much increased in quickness.

Mr. *Spooner* had found it generally small, but always quicker than its natural standard.

Mr. *Hollingsworth* asked what was the natural standard ?

Mr. *Green*.—Thirty-six, or from thirty-six to forty.

Mr. *Henderson*.—In the early stage of fever, we sometimes meet with a pulse very quick, but scarcely perceptible. In such case he did not usually bleed. A slight purgative medicine and warm clothing were sufficient.

Mr. *Spooner* was not satisfied with this account of bleeding. Did it generally, at the beginning of fever, do good or harm ? In the case referred to by Mr. Henderson, he certainly should not bleed ; but he wished to get at some general rule. Was Mr. Henderson's case an exception to a general rule ? Was bleeding at the beginning of fever good or bad practice ?

Mr. *Youatt* said, that the very definition of fever would indicate the propriety of bleeding in general cases. This inordinate action of the arterial system must be abated, and could by no means be done so speedily and effectually as by abstraction of blood. The cases in which an early and first bleeding, although copious, was repented of, were very rare in any one's practice ; the cases in which the neglect of bleeding had led to a local determination of inflammation, and a fatal result, crowded

on the recollection of us all. He had at that time a patient that had laboured under simple fever. It had assumed the true quotidian type. Every afternoon about four the shivering fit came on. There was now determination to the lungs, and he feared the result; and he blamed himself for not adopting a more decisive plan at the commencement of the disease.

Mr. *W. Percivall* said, that still much depended on circumstances, and on one circumstance particularly—whether the patient was in a surgeon's own infirmary, where he would be seen every hour, or where he would not be seen more than once or twice in the twenty-four hours. In the first case, the practitioner might wait to see what form the disease would assume; in the other, bleeding was imperative, because local determination might otherwise occur, and be established, in the absence of the surgeon. He would not, however, take any great quantity; certainly to nothing like the extent which he would in pneumonia.

Mr. *Mavor* would bleed at first copiously: thus only could he rationally hope to arrest the disease, especially in an animal so subject to sudden local determination.

The discussion next turned on the medicine to be administered.

Mr. *J. Percivall* had a great objection to aloes in fever. He had seen many cases in which they had done a great deal of harm. Diuretics acted far more speedily than aloes.

Mr. *Henderson*.—But is it not a great object to open the bowels?

Mr. *J. Percivall*.—Certainly; give injections. You would not dare exhibit more than two or three drachms of aloes; and what would they do? The croton is a better medicine. Diuretics, however, act in less than six hours.

Mr. *Henderson* had given aloes, and blamed himself for the use of them; but in the decided majority of cases, aloes had been beneficial. He does not give them to purge, but to soften down the dung and hasten its expulsion.

Mr. *J. Percivall* gave eight or ten grains of the farina of the croton nut. It was as certain in its operation, somewhat more speedy, and not so likely to produce inflammation. Eight or ten grains of the croton were equivalent to a common dose of physic. Mr. Field, he thinks, combines the croton with aloes.

Mr. *Slocombe* asked, whether it was good practice to bleed when the horse had a dose of physic in him?

Mr. *J. Percivall* thought that it might be justifiable when sudden depletion was indicated; but it was bold practice. He was an advocate for bleeding to a greater extent than many surgeons carried it.

Mr. *Slocombe* had never seen bad effects from copious bleed-

ing at first, but many from not taking enough blood, and more from not bleeding at all.

Mr. *Green* usually gave hellebore in scruple doses.

Mr. *Mavor* often gave it in drachm doses.

Mr. *J. Percivall* had given it in drachm doses every three hours. He recommended surgeons to purchase the root and pound it themselves.

Mr. *Youatt* stated, that there was a surgeon in the country who gave it, and with seeming impunity, in the enormous doses of eleven or twelve drachms. In small doses it nauseated; in large doses it became a tonic.

Since the present number went to press, the nation has lost a liberal, and patriotic, and excellent monarch, and the veterinary profession a kind and zealous patron. George IV had, from his boyish days, been almost enthusiastically attached to the horse, and had felt great interest in veterinary affairs. He had condescended to become the patron of the Veterinary College; but we know that he was becoming much displeased with the late management of that Institution, and that his patronage was continued, not because he approved of the conduct of the professors or the governors, but because, with all its faults, it was the only national institution of the kind. How soon that displeasure would have been evinced by some public act, it is not now for us to affirm. The cause of veterinary science has lost in him an ardent and a powerful friend and patron. If his august successor will deign to communicate with any of the establishment connected with the horses, and with whom his beloved brother occasionally condescended to converse, he will learn the often-repeated sentiments of his august predecessor on this subject.

BOOKS RECEIVED FOR REVIEW.

On the Foot of the Horse, and Shoeing. By Bracy Clark, F.L.S. and of the Institute of France. The second Edition, enlarged and improved.

A Dissertation on the Component Parts of the Animal Body. By W. H. Dewhurst, M.R.C.S. Second Edition, considerably enlarged.

THE

VETERINARIAN.

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ANATOMY OF THE HORSE.

[Continued from page 365.]

ANAL REGION,

COMPREHENDS a pair of muscles, and a single one.

RETRACTOR ANI.—*(Ischio-analis.)*

Situation.—On the side of the rectum, near its termination.

Figure.—Long, slender, cylindroid.

Attachment.—Inferiorly and anteriorly, to the sacro-sciatic ligament, and to the os innominatum, below and behind the acetabulum; superiorly and posteriorly, to the lateral parts of the rectum, close to its termination.

Relations.—Externally with the sacro-sciatic ligament; internally, with the sphincter ani.

Direction.—Curving obliquely around the gut.

Structure——Its posterior attachment is aponeurotic: at the mesian line, inferiorly, where it meets its fellow, it terminates in a small flat tendon.

Action.—To retract the anus; to withdraw it within the pelvis.

SPHINCTER ANI.

Situation.—Encircling the termination of the rectum.

Figure.—Oval; open in the middle.

Attachment.—Superiorly, to the coccyx; whence it descends in two divisions, which diverge to include the gut between them, around which they proceed, and again meet and unite inferiorly.

Relations.—Posteriorly with the skin; internally, with the intestine; anteriorly, with the retractor.

Direction.—Circular.

Structure.—Pale and fleshy: connected, superiorly, with a broad tendinous expansion, which attaches it to the coccyx.

Action.—To close the anus, after the expulsion of the fæces, and to retain it closed.

MALE GENITAL REGION.

CREMASTER.—*(Ilio-testicularis.)*

Continued from the faschia superficialis abdominis upon the spermatic chord, and thence into the fibrous texture of the scrotum is a thin, cellular, fibrous expansion; and, underneath this, a layer of fleshy substance, which has, when contrasted with the surrounding white parts, a remarkably red aspect. This is the cremaster. Superiorly, at the internal ring, it has a tendinous origin from the internal oblique and transverse muscles; from which its fibres pass obliquely backward upon the chord, become reflected along with it through the external ring, and terminate, slantwise, in a digitated margin, just before the chord joins the testicle. From its digitations, several slender flattened tendons descend and expand upon the inferior surface of the tunica vaginalis, with the substance of which they become so interlaced and intermixed, that all further trace of them becomes lost.

Action.—To retract the testicle (it has the power of withdrawing it as high as the abdominal ring), and to aid in its suspension.

ERECTOR PENIS.—*(Ischio-sub-penialis.)*

Situation.—Upon the ramus ischii, and crus of the corpus cavernosum.

Figure.—Short, thick, conoid.

Attachment.—Inferiorly, to the inner side of the infero-posterior part of the tuberosity of the ischium; superiorly, to the crus penis, enveloping a considerable portion of it.

Relations.—On the outer side, with the flexors of the thigh; on the inner side, with the accelerator urinæ: internally, with the corpus cavernosum.

Direction.—Oblique; from above, downwards; and from without, inwards.

Structure.—Tendinous and fleshy at its ischial attachments; fleshy in other parts, excepting that its surfaces are in part aponeurotic.

Action.—To promote the influx of blood into the penis at the time of erection by elevating and protruding the organ, and to aid in retaining it in the state of erection.

TRIANGULARIS PENIS.—*(Ischio-urethralis.)*

Situation.—Across the floor of the cavity of the pelvis, in front of the ischial arch.

Figure.—Thin and expanded.

Attachment.—On either side, to the ischial portion of the os innominatum; in the middle, to the prostate gland.

Relations.—Inferiorly, with the ischium and pubes; superiorly, with the prostates, membranous part of the urethra, and with the bladder.

Structure.—It consists of a broad expansion of pale fleshy fibres (loosely connected by cellular tissue), clothing the membranous portion of the urethra and the prostates.

Action.—It will contract this part of the urethra; and, probably, have some effect in discharging fluids from the prostates.

ACCELERATOR URINÆ.—(*Perineo-urethralis.*)

Situation.—Upon the bulb of the urethra, and around the under parts of the penis.

Form.—Elongated; penniform.

Attachment.—Incorporated with, and (may be considered as) forming part of the penis itself. Posteriorly, it springs from the middle and posterior part of the bulb of the urethra, where it is joined by other (scattered) fasciculi, arising on each side of the bulb from the perineum. It takes its course along the under part of the penis, and may be followed for some short distance upon the glans; the entire muscle, throughout its extent, forming a complete fleshy investment to the urethra.

Action.—To compress the urethral canal, thereby aiding in the forcible discharge of the urine; but more particularly, it would seem, in the ejection of the seminal fluid.

FEMALE GENITAL REGION.

ERECTOR CLITORIDIS. { *Ischio-clitorideus.* / *Sacro-clitorideus.*

This pair of muscles spring from the perineum, at which place their fibres are mingled with those of the sphincter ani. They run to be attached to the upper and back parts of the clitoris.

Action.—To erect the clitoris; and thereby protrude it into the vagina, in the act of coition.

SPHINCTER VAGINÆ.—(*Perineo-clitorideus.*)

Consists of a broad band of strong, red, fleshy fasciculi, encircling and clothing the orifice of the vagina; and spreading around the adjoining parts of the canal.

In action the sphincter will contract (and has the power to close) the mouth of the canal.

COCCYGEAL REGION.

An anatomical knowledge of the muscles composing the tail is indispensable to the scientific performance of the operation of nicking.

In denuding them (in dissection) the skin will be found to grow soft and thin upon the under part of the tail, where there is no hair; but thick again and coarse as it approaches the tip, at which part it is also more closely adherent to the muscle, in consequence of the little cellular substance there is interposed.

These muscles are divisible into four pairs; and most completely so at their origins at the root of the tail: in the course of their progress their nearest fibres unite together, and become blended one with another.

ERECTOR COCCYGIS.—(*Sacro-coccygeus superior.*)

Situation.—Supero-lateral part of the tail.

Form.—Elongated; pyramidal.

Attachment.—Anteriorly and superiorly, to the transverse processes and spines of the sacrum; posteriorly and inferiorly, to the bodies and spines of the bones of the coccyx.

Relations.—The muscle lies in the hollow formed by the sacrum on the inner side, and the ileum and sacro-sciatic ligament on the outer side.

Structure.—Superior attachments, tendinous and fleshy; inferior, chiefly fleshy; though, here and there, slips of tendon pierce its belly and take root in the bone. The muscle, altogether, is remarkable for its tendinous appearance externally; and for being somewhat complex in its composition: consisting, exteriorly, of a flat tendon, from which slips are detached in its course along the tail, after a penniform manner, across its fleshy belly; while the interior part is fleshy, and grows pale and narrow in its course, and is everywhere closely adherent to the coccygeal bones. Towards the extremity of the dock, the tendons so predominate over the fleshy fibres, that it is through them alone that the muscle can be distinctly traced to its termination.

Action.—To erect the tail. If one muscle act by itself, the tail at the time of elevation will be carried to one side. Some horses have such power of action with these muscles, that they can reflex the tail over the croup, or curve it to either side, around the quarter.

DEPRESSOR COCCYGIS.—(*Sacro-coccygeus inferior.*)

Situation.—Infero-lateral part of the tail.

Form.—Similar to that of the preceding muscle.

Attachment.—Anteriorly and superiorly, within the pelvis, to the sacro-sciatic ligament, and to the body of the sacrum; posteriorly and inferiorly, to the inferior parts of the bodies of the coccygeal bones.

Relations.—Superiorly, with the erector; inferiorly and externally, with the skin; internally, with the coccyx.

Structure.—Like the preceding muscle, it has, exteriorly, a flattened tendon; but it is a much smaller one, and does not detach any lateral slips, until it has descended to near the middle of the coccyx. Its fleshy belly, on the whole, is more bulky than that of the erector; it grows contracted in passing out of the pelvis, but afterwards forms a rounded prominence along the under part of the tail. Its posterior attachments are made by strong and detached tendons, issuing from the broad one traversing its middle, which are concealed within the fleshy belly. Its tendons increase in number, but diminish in size, as the muscle proceeds backward: near the tip of the tail, they surpass in strength those of the erector. It is the principal one of these tendons which commonly project within the section made in the operation of nicking, and requires excision.

Action.—To depress the tail and retain it against the rump. If one muscle act alone, it will at the same time incline the tail to one side; in which case it may co-operate with the erector of the same side. The power of action possessed by the depressors may be roughly estimated, by the force it requires with the hand to raise the docks of horses that are said to be "shy about the tail."

CURVATOR COCCYGIS.—(*Sacro-coccygeus lateralis.*)

Situation.—Upon the side of the dock, between the two former.

Form.—Smaller than either of the afore-described muscles; though it bears a close similarity to them in the appearance and disposition of its fibres.

Attachment.—Anteriorly, within the pelvis, to the lateral parts of the sacrum; and, commonly, to the fourth and fifth lumbar vertebræ; posteriorly, to the transverse processes of all the bones of the coccyx.

Relations.—Superiorly, with the erector; inferiorly, with the depressor; externally, with the skin; internally, with the coccyx.

Structure.—Anteriorly, it consists of two parts, which have been regarded as separate muscles: one portion accompanies the erector; the other the depressor. Posteriorly, it consists of tendinous and fleshy parts intimately and inseparably interwoven with each other.

Action.—To curve or flex the tail laterally around the quarter. In switching off flies from the hind parts, these muscles are the principal ones called into action.

COMPRESSOR COCCYGIS.—*(Ischio-coccygeus.)*

Situation.—At the side of the root of the tail.

Form.—Broad and flattened.

Attachment.—Anteriorly, to the sacro-sciatic ligament and to the ischium; posteriorly, to the transverse processes of the four or five uppermost bones of the coccyx.

Action.—To assist in the depression of the tail; but, principally, to maintain it forcibly compressed against the rump.

[To be continued.]

Communications and Cases.

Ars veterinaria post medicinam secunda est.—VEGETIUS.

PATHOLOGICAL FACTS AND OBSERVATIONS.

By Mr. CASTLEY, *V. S.* 12*th Lancers.*

No. III.

"I shall studiously avoid controversial discussions when they can lead to no practical results; and theory unsupported by experience I shall altogether reject."—*Dr. Ballengall's Lectures.*

"Let us ——
Try what the open, what the covert yield."

OF STRANGLES.

I HAVE frequently heard it remarked by farmers, and also by other persons, whose practical observations I consider at all times worthy of attention, that the period of strangles is often a much more trying and critical time for young horses than most people seem to have any idea of; that, when colts get well over this complaint, they generally begin to thrive and improve in a remarkable manner, or the contrary; that, in fact, it seems to effect some decided *constitutional change* in the animal. Often, when a young horse is looking sickly, delicate or thriftless, they will say, "he is breeding the strangles," or that "strangles is hanging about him, and he will not be better until he gets over that complaint."

Now I am inclined to think there is a good deal of truth in these remarks. And not merely because I think the remarks of

practical persons are always entitled to some respect; but because I have often had occasion to notice something of the same kind myself. I have frequently seen young horses looking unkindly in their coats; exhibiting a general unhealthy appearance, with a disposition to cough and sore throat, and continuing in this state of obstinate thriftlessness for even months together, previously to showing what is commonly called strangles; as if there was a struggle in the system to throw off something that oppressed it, and which it wanted power, or had not sufficient vigour to overcome. But the period of strangles once passed, I have often been struck with the remarkable change that has taken place in the condition of the same individuals, who generally then begin to thrive and improve rapidly.

When, therefore, we look upon strangles as something local trivial, or scarcely deserving of much attention, we are, I think, taking but a very superficial view of the matter. Its constitutional nature may not, indeed, in most cases, be clearly developed: it may be something difficult to grasp, or even beyond our reach; yet, we should never forget that this forms an essential, nay, I may say, the only important part of its character.

Our imperfect knowledge of the real nature of this disease has been admitted by some of our best veterinary writers. "All I know of its specific character," says Percivall, "is the universality of its attacks, the age of the subject, and the slight accompanying febrile derangement; even in these, its peculiar characters, it manifests great irregularity." Most of the older authors on farriery, however, and some of them appear to have possessed considerable talent for observation, looked upon the process of strangles as "discharging something obnoxious to the constitution of young horses, by which they are rendered more healthful than they were before." And White, who, I think, is by no means bad authority in mattters of this kind, observes that, "when strangles occurs at grass, and goes through a regular form without the interference of art, it accomplishes the purpose for which it was designed, that of invigorating the constitution." My friend, Professor Dick, of Edinburgh, also remarks (in his Lectures), that this is perhaps a much more complicated disease than is generally supposed; that, although it commonly terminates by an abscess under the jaw, yet it may, and occasionally does, give rise to collections of matter on other parts of the surface. He has noticed this taking place more especially about the tops of the shoulders, and in the neighbourhood of the axilla; and has sometimes seen a second formation of matter in the same part after a long interval, even that of a year.

Now, I myself have witnessed many curious facts relative to

this disease; in my mind, not only fully bearing out Mr. Dick in these observations, but which I think would justify me in going a step further; from which I might be warranted in drawing the conclusion, that what we call strangles may terminate in the formation of matter, either on any part of the surface of the body, or among the viscera of the abdomen, or, in short, any where.

Two cases of this sort occurred whilst we were at Canterbury the year before last: I thought them sufficiently interesting at the time to be put on record; and in now presenting them to my brethren, I have deemed these few preliminary observations necessary. I would only further remark, that in some years we find strangles a much more violent and formidable complaint than it happens to be in general, or at other times.

During the summer of 1828 we recruited a number of young horses, the greater part of which were attacked, soon after joining the regiment, with a very *acute form* of strangles; characterized particularly by painful tumefaction of the *sublingual* glands, inflammation and suppuration along the course of the salivary ducts, and by the violent sore throat it often gave rise to. In some instances these symptoms were so severe, as not only to prevent swallowing, but to obstruct the breathing in such a manner, as even to threaten suffocation; truly putting one in mind of old Gervase Markham's description of this disease, and his definition of the origin of the term. "It is," says he, "a great and hard swelling between a horse's nether chaps, *upon the rootes of his tongue*, and about his throat, which swelling, if it be not prevented, will stop the horse's wind-pipe, and *so strangle or choake* him; from which effect, and *none other*, the name of this disease tooke its derivation."

Towards the end of summer these attacks became less frequent, and also less violent. It was then I witnessed the two following variations from the usual course.

CASE I.

A bay mare, four years old, joined in July, was admitted into the infirmary stable on the 4th of August, being very stiff and lame of the near hind extremity. The animal seemed to express much pain on moving; appearing to drag the limb, as if unable to get it forward. The following day a painful tumour began to make its appearance on the loose ply of skin forming the commissure of the flank, which slowly, but gradually, increased, until it became about the size of a cricket ball. In ten days matter pointed, and it was opened; and then another tumour of exactly the same sort began to make its appearance on

the *opposite flank*. This is what fixed my attention to the case, and marked its constitutional character. They both went through exactly the same process. During the formation of these abscesses the animal seemed to suffer a good deal of pain and inconvenience. They were both ushered in by some degree of febrile disturbance; and they each discharged about a pint of thick purulent matter: after which the mare began to thrive and improve rapidly, and was discharged on the 10th of September.

In this case we had neither sore throat nor any catarrhal symptom whatever present; and yet I will not hesitate to say, it was that kind of specific affection "to which horses appear by nature subject at one time or other of their life" (*Percivall's Lectures*); and "whose natural cure seems to be a suppurative process" (*Blaine's Outlines*). In short, that specific movement of the system which we, for want of a better term, continue to call strangles.

CASE II.

A brown mare, three years old, which had joined in October, was admitted into the hospital stable on the 4th of November, shewing symptoms of strangles, tumefaction of the glands, with soreness of the throat, and slight constitutional disturbance. Was treated in the usual way. A large abscess soon formed under the jaw, which was opened; and there appeared to be nothing particular or worthy of remark in the case: it seemed to run a regular course, and the mare was sufficiently well to be discharged on the 15th, at that time in good spirits, her appetite good, and the abscess nearly healed. She was re-admitted on the 28th of the same month, then exhibiting the following symptoms, great dejection of spirits and debility; loss of appetite; staring coat; the hair of the mane and tail loose, and easily pulled out; and it was observed that the animal's breath stank most offensively. She had a small but not accelerated pulse. Her breathing was tranquil, and bowels free. She was placed in a loose box stable, ordered soft food, and the following drink: ℞ Chloride of Lime (concent. solut.) ʒi. Spts. Nit. Æther ʒiij, in two pints of Infus. Quassia. The draught was repeated, and seemed in a great measure to correct the fetor of the breath; but in other respects the patient remained nearly in the same state. We observed that she sometimes turned her head round and looked back, towards her flank, for a considerable time together: but this was done in such a quiet and gentle manner as not to be considered expressive of active pain. Tonics and diaphoretics were administered daily; and under this treatment the mare's appetite seemed to improve. She laid down regularly; the ex-

tremities kept warm; the animal functions appeared to be going on uninterruptedly; and there was apparently but little constitutional disturbance. Still every now and then we observed her head turned round, and pointing towards the left flank, indicating something wrong going on in that quarter—some visceral derangement difficult to make out. The symptoms continued nearly the same until the 2d of December, when they all became rapidly worse; increased debility; disturbed breathing; weak small pulse at 60; appetite failing. On the 3d, still growing worse. And on the morning of the 4th, we found the mare unable to rise; her body covered with cold sweat; pulse scarcely perceptible. She died about twelve o'clock the same day.

Post-mortem Examination.

On opening the abdomen a quantity of dark-coloured serous fluid either escaped or was seen amongst the interstices of the bowels. The surface of the large intestines exhibited strong marks of recent inflammation. The blind end of the cæcum was found adhering, with a broad and thickened basis, to the side of a *large tumour* which had formed in the misocolon. A part of the colon itself, near its anterior curvature, was likewise found firmly attached to this tumour; and from these two points of attachment might be seen red streaks or traces of inflammation running along the peritoneal covering and ligamentous bands of the cæcum and colon. In the centre of the tumour was an abscess, filled with a thin purulent matter. Its walls were from two to three inches thick, and seemed to consist of dense cellular substance. In the colon was seen a considerable quantity of food; and digestion appeared to have been going on regularly enough. All the rest of the abdominal viscera, as well as the contents of the chest, exhibited a sound appearance.

The tumour or abscess, then, which we have seen had been formed in the mesentery, was, without doubt, in this instance, the immediate cause of death. And I can feel no hesitation in calling this one of the sequelæ of strangles.

One thing, I may remark, struck me as appearing somewhat extraordinary in this case, which was the little interruption that seems to have been given to the process of digestion, considering the nature of the mischief that was going on amongst the bowels.

I could bring forward many other instances in support of what I have advanced: I shall only mention one more, and which is of very recent occurrence.

CASE III.

A bay gelding, four years old, joined the regiment in April last, from Durham fair; was admitted into the infirmary stables,

Royal Barracks, Dublin, on the 7th of May, then shewing what might be called only slight cartarrhal symptoms; having a cough, but unaccompanied with any tumefaction of the glands or sore throat, and without loss of appetite, or much apparent disturbance of the system. He was placed in a box stable, ordered soft food, and had some doses of alterative medicine given at intervals: but the cough continued, and was at times very troublesome during the whole month. About the beginning of June a tumour began to make its appearance under the jaw: a small abscess formed, and was opened on the 9th. Then another appeared on the right cheek, which was punctured on the 15th. About this time, the upper part of the near fore leg was attacked with phlegmonous inflammation, which was followed by a large collection of matter amongst the muscles of the arm; and this abscess was opened on the 20th. In the mean time, a large tumour had arisen upon the hind quarter of the same side, nearly over the hip joint. Matter pointed, and it was opened on the 29th. These two last abscesses discharged a large quantity of very thick pus. Since then the horse has been advancing rapidly in convalescence; his appetite keen, and his spirits good. Here we have an instance of four distinct formations of matter on different parts of the surface, all, no doubt, arising from the same cause. And this subject, it should be remembered, was troubled with an obstinate cough for more than a month prior to shewing any visible symptom of strangles.

The points I have in view, and which I think these facts have a tendency to prove are—first, that strangles is perhaps a more complicated disease than most people appear to be aware of; and, secondly, that it may end in the formation of an abscess, not only *on* any part of the body, but amongst the visceral organs; in fact, any where.

In these observations I hope to be borne out by the experience of others. For the present I have done.

Dublin, 9th July, 1830.

AN ACCOUNT OF A MONSTROSITY, PARTAKING OF THE PECULIARITIES OF A COW AND HORSE.

By Mr. J. W. Gloag, V.S.

About eighteen months since, I was at Greenwich, and my curiosity was excited upon hearing that a monstrosity was then exhibiting, partaking of the peculiarities of the cow and horse. The animal seemed to be about fifteen hands high (a mare, if I

dare call her so), of the commonest description, and three years and a half old. The most striking peculiarities were in the tail, hips, head, breast, and off fore leg. The off fore leg, from its singularity, claimed my first attention; and I was induced to examine it with great care, as, at first sight, I suspected it might have been the result of disease. The shoulder-blade and the humerus seemed to be shorter and more upright than usual, and the latter bone was thicker, and turned very much outwards. This leg was, in every respect, similar to a cow's; but the similarity was still more evident when I descended to the foot. There were two hoofs, with separate joints, and a natural secretion between them. There was no sign of a frog, but the animal trod upon her heels, and used the foot precisely as a cow. I walked her round the stable several times, and it was really ludicrous to observe the difference in the manner of progression between the two legs. The colour of the hair on the body seemed to present a strange mixture between that of both animals; but it was long, soft, and loosely attached. The head had a very curious appearance: it seemed to be broad at the poll, and the ears were very large, and rounded, and turned backwards and inwards, and covered with long, shaggy hair. The lower part of the face projected very much on each side, giving a width very dissimilar to the face of the horse. There were six incisor teeth in each jaw, but very unevenly distributed; and they seemed to partake much of the mixed character. The breast was wide and hung down, strongly resembling the dewlap. The body, neck, and near fore leg, resembled those of the horse. The hips, tail, and legs above the hock, were exactly similar to those of a cow. The spinous and transverse process of the ileum projected very much, and the pubis stretched backwards, giving that great prominence of the bones of the ischium always so observable in a cow. The sacral processes did not project, and the tail did not arch over the pubis, as in the horse, but seemed to fall more abruptly: it was shaved nearly to its tip, where was left a tuft of hair, which was frizzled, and very like that of a cow. The tail felt very fleshy, and at its base the skin was loosely attached; and the vagina was without colour, and hung down as in a cow. The patellæ were very thick and large, and the hinder extremities, above the hock, were totally dissimilar to a horse. The mammæ were not very large, nor was the udder unnaturally distended. At this time I related the facts to many veterinarians, and among others to Mr. Sewell.

A short time since I called upon Mr. J. Skilt, V.S., at Southwark Bridge, and he informed me that he had seen the skeleton of a very strange animal at the knacker's; and wished me to go

and examine it with him. I did so; and was much surprized and pleased once more to have an opportunity of surveying the monstrosity I have just been describing; and I am enabled to add the following particulars to my previous description of her:—The occipital and pterygoid processes are large, and the former very broad and projecting, and differing from the triangular-shaped process of the horse. There are no signs of horns. Just above the three anterior molars on each side is a large projection, similar to specimens of disease wherein the teeth have still remained in their sockets. The three first molars are perfect cow's teeth. The ileum and pubis are laid nearly flat, as in the cow. The number of ribs and vertebræ are the same as in the horse. All the joints seem to be unusually large. The greatest peculiarity is, however, in the off fore foot; and I am sorry that, from the tenacity of the knacker respecting it, I am obliged to be very concise in my account of it. Articulating with the lower head of the large metacarpal bone is another, altogegether shorter and broader than the large pastern of the horse, and cleft nearly to its middle; and, articulating with each division, are the remaining small bones of the foot. There are two hoofs, separately joined, with a natural secretion between them; but they have grown enormously since I saw the animal alive. The knacker informed me that he did not perceive any thing in the stomach different from that of the horse. Any gentleman who wishes for more information can examine this, and many other curious specimens, at Winkley's Yard, in Fryer's Street, Borough. The only history I could learn of the animal was, that the owner had purchased her from the breeder, who stated, that her dam, when very old, had been put out on Finchley Common with a bull; that no horse could have access to her; and that this very singular animal was probably the offspring of the mare and the bull.

A CASE OF PROLAPSUS UTERI.

By Mr. John Skilt, V. S., *Bridge Street, Southwark.*

On the 19th of February, at four in the afternoon, I was called to see a half-bred mare, seven years old, in good condition, with the following symptoms, which had manifested themselves the preceding evening:—Respiration quick and laborious; pulse small, and 60 in a minute, with occasional fits of coughing; extremities rather cold; the fore legs widely separated; and she had not laid down during the night. In addition to these symptoms, every paroxysm of coughing produced a protrusion of the uterus to the extent of six or eight inches, and it gradually returned when the cough ceased. The uterus, when protruded, appeared

perfectly healthy; and I considered it merely as depending upon the violent action of the diaphragm and other abdominal muscles pressing on the viscera during the act of coughing. The symptoms sufficiently indicated inflammation of the lungs; for which I treated her in the usual way, with the addition of cold astringent injections thrown up the vagina every two or three hours. On the next day (20th) I found the uterus was prolapsed less frequently, and all the other symptoms mitigated. On the 21st the uterus had not protruded; the pulse was 45; the breathing less difficult; and cough very considerably relieved. From this time she improved gradually; and in two or three days was quite well.

The owner of the mare had purchased her only three days previous to her illness, and did not know any thing of her history; but, from the appearance of her teats, I presume, that she may have borne a foal.

A CASE OF AFFECTION OF THE BRAIN.

By Mr. Rickwood, *Bedford.*

About three in the morning on the 16th of last month, I was sent for to the Swan Hotel, in this town, to attend a mare which had just come in with the Leed's mail from Shefford, a nine-mile stage. She was staggering about the place, and her mouth filled with foam*. She would move in the direction of any sound, and was disposed to seize any substance within her reach; pulse scarcely perceptible; pupils much dilated, with little or no vision (amaurosis compressionis). The respiration was laborious: there were symptoms of palsy of the lower extremities, and the muscles of locomotion were generally affected. She was old and lean, though well fed, as those horses generally are. She was bled to the extent of twelve pounds, and seven drachms of aloes were given to her in solution. The drink was administered with much difficulty. Frequent clysters of warm water, with common salt, were added.

Eleven o'clock, A. M.—The symptoms increasing, I opened the temporal veins on either side, from which she bled rapidly. As I was obliged to go into the country, I left her bleeding, with a person to watch her. On my return in the evening, the attendant informed me that the bleeding continued untill her breathing became very difficult, accompanied

* This secretion continued the whole day, which alarmed the helpers so much in the morning, that I could scarcely prevail on them to render me the necessary assistance. Her constant attempts to bite increased their suspicion. We have had rabid animals of late in the neighbourhood, which unfortunately have done much mischief.

with as much noise as "a roarer would make in his gallop." At length she fell; after which the symptoms began to subside, and in a few days she was sent home.

A CASE OF FRACTURE OF BOTH THE METACARPAL BONES.

By the same.

A CURIOUS instance of fracture of both metacarpal bones occurred on our race meadow in 1828. A black mare, matched to run at the ensuing spring races, was, by way of training, galloped round the course until she was completely exhausted. When one wiseacre was tired of riding, another mounted. At length the poor animal was reduced to the utmost distress; and both the metacarpal bones, each about three inches above the fetlock joints, snapped short. The fractured ends protruded through the integuments, and the sufferer moved several yards on them before she fell.

Post-mortem Examination.

The exterior tendons of each leg, where the fracture took place, were nearly severed: the flexor tendons and sessamoid bones uninjured. On opening the chest, I found the trachea and bronchial ramifications filled throughout with a formation resembling froth, but higher coloured; and their mucous membranes much inflamed. The lungs were distended, and surcharged with blood; the pituitary membranes and tunica conjunctiva highly injected; the heart and the whole of the abdominal viscera healthy.

A REPLY TO MR. BAZING ON ONE-SIDED NAILING.

By Mr. W. C. SPOONER, *Blandford.*

To the Editors of "The Veterinarian."

Gentlemen,

I HAVE an equal disinclination with Mr. Bazing to enter into a paper contest with any one; and I should rather be disposed to remain in the mire of error, into which he so kindly places me, did I not fancy that I had a sufficient excuse for again occupying your pages in replying to his last letter. My reason, then, is simply this: that if I have committed the errors Mr. B. has thought proper to correct, it was my duty to acknowledge them; but that if I conceived I was right, in justice to myself I ought to support my opinions. But before I proceed, I would fain endeavour to avoid the trap Mr. B. has set for me at

the very entrance of his preserves. I refer to his pungent expression, "*I wish every one would understand what he reads, and criticise only what he understands;*" and as litigious sportsmen are sometimes caught in traps of their own setting, so do I imagine that Mr. Bazing's observation forcibly applies to himself, as he was the *first* to criticise; and it is for the readers of THE VETERINARIAN to judge whether he perfectly understood the subject of his criticism.

In the second volume of THE VETERINARIAN, page 362, Mr. Bazing calls Mr. Turner's a "miserable and *insecure* expedient;" and yet when I say, that these terms, if founded on *trial*, would sink Mr. Turner's system into obscurity, Mr. B. has it that I *misunderstand* him; and when I bring forward facts to shew that it is neither "miserable" nor "*insecure*," Mr. Bazing says that this "*point*" is "*inconsiderable.*" Mr. B. asserts that he has "*proved* Mr. Clark's and Mr. Turner's systems to be *exactly alike;*" but how can we reconcile this with the conclusion of his sentence, "but each accomplishing his object by a method somewhat different from the other." Mr. B. says that "Mr. Clark and Mr. Turner both contend for the elasticity of the foot." If they really do, I wish them joy of their victory; for I know of no one to contend against them. I really do not imagine that our forefathers were fond of building castles in the air; and I think Mr. Bazing utters a sad libel on the "wisdom of our ancestors" in supposing that they invented a shoe, and forgot the means by which it was to be applied.

Can Mr. Bazing be serious when he states, that the present Professor says nothing about the elasticity of the foot,—has never acted upon it, or even acknowledged it? "Oh, tell it not in Gath, publish it not in Askelon!" lest every disinterested pupil of the Professor rise up and proclaim against it. Mr. Coleman mentions in his work, and in his lectures he impressively reiterates, the elasticity of the foot. He compares the sole, when the foot is off the ground, to a saucer; and as the saucer would occupy a larger space when flattened, so does the sole, when it descends, from the superincumbent weight, the crust dilating accordingly. Mr. Bazing is not acquainted with any one, prior to 1809, "who has distinctly said that the foot is elastic;" and yet even Lafosse speaks of its flexibility, and says, long ago, that "the hoofs are susceptible of *contraction* as well as *dilatation.*"

An imprudent friend, they say, does a man more injury than an open enemy; and well has Mr. Clark reason to complain of this; for I never can believe that such a clever and ingenious writer as he undoubtedly is could have arrogated to himself the discovery of such a well-known fact as that which Mr. Bazing wishes to father upon him, viz. *the elasticity of the foot.*

Mr. Bazing calls upon me to state the effects produced by the unfettered system. Now, with respect to my own mare, I can only say, that she had good feet when the shoes were first applied; and although her dam had for years notoriously contracted feet, and was kept for breeding in consequence of her lameness, yet she still possesses as perfect a foot as I have ever seen a half-bred mare possess at six years old. But Mr. Bazing will say this is inconclusive—this proves nothing; if it does not, I think the following case will. A chesnut high-bred horse, seven years old, had both fore feet exceedingly contracted, was very lame, and was affected, as I considered, with the navicular *joint* disease, as he was much lamer in the *near* than the *off* foot, although the *latter* was smaller, and more contracted than the *former*. The heels had been *opened*, as it is termed by the sapient smiths, that is the bars had been nearly removed, and the feet otherwise maltreated. I ordered his feet to be properly pared, and the shoe nailed round the toe and outside quarter only. About two months afterwards, on coming to be shod for the third or fourth time, his feet were pointed out to me by my smith, as having become wider by at least half an inch. The horse had continued his work as leader of a coach, but his lameness rather increased than otherwise, and he was frequently lying down; yet his feet enlarged against my anticipations, as I did not expect that he would have thrown sufficient weight on his fore quarters to produce this effect, the more particularly as he was a light horse.

I am entirely unknown to Mr. Clark, and but barely acquainted with Mr. Turner; and therefore trust that I shall be regarded as perfectly disinterested and unprejudiced, pro or con, on either side. I cannot, however, but be struck by the mode in which Mr. Turner has made public his method of shoeing. He lays claim to no discovery; he assumes to himself no fanciful invention; but he plainly states the circumstances that induced him to adopt and amend his present system; and so simple does it now appear, that the wonder is not that he has introduced it, but that it never has been practised before. But does he deserve the less credit for not being the actual inventor? By no means: as Dr. Jenner deserves all the honour of the benefits arising from vaccination, so does Mr. Turner merit every praise for his laborious and successful investigation of the navicular *joint* disease, and for the introduction of his late improvement in shoeing. He certainly has been, in these respects, a fortunate man; and I should imagine his singular success, in great measure, to be owing to his not puzzling his head with impracticable theories, and to his never losing sight of the *cui bono*.

I am afraid, gentlemen, I have trespassed too much on your well filled space, and will therefore hasten to subscribe myself

Your obedient servant,

W. C. SPOONER.

Blandford,
July 8th, 1830.

ONE-SIDED NAILING.

—

MR. JAMES TURNER TO MR. W. C. SPOONER, ON MR. BAZING'S LETTER.

Dear Sir,

IT would be a sacrifice of time to dwell on the gratification I experienced, at finding the *new unfettered system of shoeing by side-nailing* publicly espoused in a paper contained in the last May number of THE VETERINARIAN; and this pleasure was not a little heightened, on observing that my able advocate was an experienced veterinarian in full practice.

Doubtless you have read Mr. Bazing's reply to you, in the July number of the same periodical, in which he refers you to Mr. Charles Clark's letter on the same subject, in the "Farrier and Naturalist," p. 274; and to Mr. Brightwen's remarks in the same work. Now the said Mr. Bazing, in his unbounded zeal for his friend Mr. Bracey Clark, has wanted the candour likewise to remind you that I immediately replied, in a single paper, to Mr. B. Clark, and also to his nephew and cousins, and friends, both at *home* and *abroad; all* of whom appear to have been in requisition on this very knotty point, viz. Mr. Charles Clark, Mr. Crepin, Mr. Brightwen, &c. &c.: and Mr. Bazing, silent as he is, could not have avoided seeing it, in the September number of THE VETERINARIAN for 1829, as my reply accompanied his own epistle in that work. It would seem, however, that Mr. B. has no wish to bring that record again before the veterinary public, and therefore, as a point of justice to myself and to the subject, I am sure you will excuse my having thus reminded you of it.

I am, dear Sir,

Your's faithfully,

JAMES TURNER.

Horse Infirmary, 311, Regent Street,
July 13th, 1830.

PS. They wished to make it appear that I am enlisted under their banners, but they might have found by that paper that I am rather a rebellious subject, having shown that there is more

than a *trifling* difference between us in the *mode* of accomplishing the common object in view, viz. the Expansion of the Foot of the Horse, the nature of which was not unknown to our ancestors; but they altogether lost sight of the chief value and beneficial consequence of *side* nailing, when they occasionally practised it. I do maintain, that no other method of shoeing whatever will admit of the natural alternate contraction and expansion of the foot *during the animal's many idle hours of confinement in the stable;* therefore, on calculating the few hours in a week that he is usually occupied in quick motion, it will be seen, that one of the *principal* advantages of the new method over the old, is the *unfettering of the foot whilst the animal is unemployed;* and during all which time, the very reverse is the effect of Mr. Bracey Clark's miscalled *expansion* shoe with the joint at the toe.

CASES OF RUPTURE OF THE LIVER, AND COMPLICATED INFLAMMATION.

By Mr. T. S. Price, *of Rochester.*

Gentlemen,

Should you conceive the following cases worthy of insertion in your very valuable veterinary publication, I shall be proud of seeing them there: not that they will afford much information to my brother veterinarians, but I am of opinion that the more of these unfortunate cases we make public among ourselves, the greater will be the benefit derived at some future period. By and by, we may be able to save life in cases like these, or, at least, what would afford inward satisfaction to every man of humanity, we may have the means, in some measure, of relieving the patient's sufferings.

RUPTURE OF THE LIVER.

July 6th.—I was requested to attend a bay horse, at Brompton barracks, belonging to General Fisher, at half past seven in the morning. The account I had from the groom was, that the animal, a little after six, fell down suddenly in the stall, struggling very much, and appearing in great pain: on the night before, the horse seemed quite well. On my arrival I found him down. The pulse at the heart was not to be felt: at the submaxillary artery I could feel it, soft, trembling, and so rapid, that it was impossible to count it: the body was all over in a profuse state of perspiration. I offered no hope of recovery, being satisfied the horse was struck with death; and at half past eight in the morn-

ing, the animal died. The groom informed me that the horse at all times appeared dull, and did not eat his food well. He worked in the carriage with the other horse, and the groom had no great complaint to make of him, except that he often appeared low and fatigued, as if the work was too much for him. He considered there was difficulty in passing urine, and occasionally gave him a diuretic ball: the horse was in tolerably good condition.

Post-mortem Examination.

The lungs and the abdominal viscera were healthy, except the liver, which was twice the size of a natural liver, and a perfect mass of disease. No part of it could be touched with the knife without a quantity of pus issuing from the wound: eight or ten inches of the upper surface were ruptured, which, I suppose, took place when the animal suddenly fell down. A quantity of blood had flowed into the cavity of the abdomen, to the amount of fourteen quarts, which of course would, in a short time, produce death. I should think that the liver must have been diseased a considerable length of time, perhaps several years. Part of the liver still performed its office in secreting bile.

A COMPLICATED CASE OF INFLAMMATION.

A fine bay horse nine years old, belonging to Mr. Janes, merchant, in this city, July 6th, appeared dull, off his appetite, and had every symptom of labouring under an attack of colic; pawing his litter, lying down, getting up again frequently, and occasionally looking at his flanks. I was at the time attending another horse in the stable for lameness, when my attention was called to him at the request of Mr. Janes. The pulse was 45, and hard. I gave him a drink of gripe medicine, which relieved him, but there was at the time much difficulty in swallowing it. I bled to the amount of five quarts, and the blood drawn was dark and unhealthy, showing organic disease of the lungs: the animal soon after hung his head; the respiration was laborious, but there was no increase of pulse. I was satisfied, likewise, the horse had constipation of the bowels as well as other unfavourable symptoms; and gave a physic ball, with directions to have bran mashes and chilled water to drink. At seven in the evening the patient was in the same state; the pulse 50; extremities and surface of the body warm and comfortable.

7th.—Bowels not acting, the symptoms remaining the same, and there being no increase of pulse, I inserted a rowel in the abdomen, and commenced administering injections. In the evening the horse appeared more cheerful, ate a little green meat, and in the night lay down.

8*th*.—Bowels had not acted, and the extremities were a little cold. I had them rubbed with mustard embrocation, and bandaged up: the patient had been down comfortable in the course of the day. In the evening, the extremities and other parts of the body were quite warm. The respiration was still unpleasant, but it is necessary to observe the horse was considered a little bad in the wind. Pulse was 50, with much weakness, which did not, in my opinion, warrant depletion, and, thinking that purging would soon come on, I had hoped that appearances would be more flattering, and that the patient would do well.

9*th*.—The servant told me the horse was purging, and seemed comfortable; the extremities and surface continued warm: the rowel acted properly; the pulse now 70, and soft: the animal continued purging all that day.

10*th*.—Found the patient still purging, but not violently. The extremities and surface of the body as before; the pulse 70, with great debility; the lower surface of the abdomen swelled very much all the way towards the chest, and the hind legs likewise. I now administered cordial medicine to relieve the irritation of the bowels, which had the desired effect, and gave the horse a little better appetite. In the evening the fæces were natural, the patient more cheerful, the pulse 50, and the symptoms very flattering. Ordered the horse gruel, and any thing he would eat: he lay down in the night.

11*th*.—Found the patient more easy; the purging had ceased; pulse 50, but the respiration still laborious. I administered stomachic balls to create an appetite. Notwithstanding the respiration was not pleasing, the appearances in every other respect were promising. In the evening the pulse was 45, and the fæces rather hard.

12*th*.—In the morning every thing was, in appearance, going on satisfactory; however, in the evening I found the bowels disposed to constipate, and evident marks of sudden weakness: the surface of the body, &c. as before, and the pulse 55. I gave an alterative ball containing ℥ifs of aloes, to keep up gentle action of the bowels.

13*th*.—Found the patient considerably worse; the bowels acting; the pulse 70; the extremities and surface of the body, as before, very warm and comfortable; but no appetite. Extreme weakness precluding the possibility of depletion, I gave sedative medicine to lower the increased action of the heart. In the evening there was no improvement; all the pleasing and favourable symptoms we had before observed were vanished, and I considered the patient lost.

14*th*.—The horse was in the same state; medicine had no

power on the increased action of the heart. The surface of the body still continued warm, but the breath of the animal was very offensive, showing the ulcerated state of the lungs.

15*th*.—In the morning I met Mr. Bean, in consultation on the case. He proposed bleeding, as the only thing to be done; and feeling satisfied as well as himself that there was but little chance, we bled to the amount of four quarts. This did not lower the frequency of the pulse, but softened the quality of the beating at the heart. We ordered him sedative balls. Mr. Bean scarified the belly, and some serum escaped. At six in the evening we met again. The symptoms were more unfavourable; the pulse 80; respiration very difficult; extremities and surface of the body still warm; appetite and the unpleasant smell gone. We took four quarts more of blood away, at Mr. Bean's request.

16*th*.—In the morning I again met Mr. Bean, whose opinion coincided with mine, that it was of no use to attempt venesection again, as the animal was fast sinking. At two o'clock the patient died, and two hours afterwards I examined the body.

Examination after Death.

The lungs were in a dreadful state; one lobe had entirely lost all appearance of what it formerly had been, and constituted one mass or substance exactly like buffy blood drawn from an animal while under inflammation. The other lobe was ulcerated in various parts, very offensive, and quite black; the pleuræ thickened, and the anterior portion of the diaphragm had several ulcers on it. The heart was much enlarged, and the bag containing it in a gangrenous state. There was serous effusion in the thoracic cavity to the amount of several quarts. The stomach and intestines were much distended with flatus, and the liver greatly enlarged and gorged with blood. One kidney was in a high state of inflammation, and all other parts natural. It was evidently a complicated and lost case from the first.

ESSAYS ON HORSE MEDICINE;

COMPREHENDING THE THEORY AND PRACTICE BOTH OF THE FRENCH AND ENGLISH VETERINARY SCHOOLS.

ARTICLE III.

Of Disease in the Blood—Humours—Transfusion.

In former days, all disorders of spontaneous or obscure origin were supposed to proceed from some altered condition of the fluids or "humours" of the body, of which the blood (the most gene-

rally diffused and copious of them) was accounted to be the principal or *matrix:* either the humours were said to superabound, to be overheated, to be impure or vitious, or even to be putrid; which doctrine constitutes what modern medical philosophers have denominated the "humoral pathology." The lights however in later times cast upon medical science have dispelled such mysterious and ill-grounded notions from the mind of the modern physiologist: as he has become enlightened in his progress, he has become convinced that such notions are erroneous; that, as the solids are, admissibly and demonstrably, organised bodies, whereas the fluids or humours are but the products of organization, the condition of the latter must necessarily depend upon the state of the former; so that, to assert that an altered fluid itself constitutes the essence of disease, is, evidently, mistaking the *effect* for the cause. With equal reason might one declare in a cankered tree that yielded bad fruit, that the fault was not in the tree, but in the fruit: it is manifest, however, that such is not the case; that the evil is owing to some defective organization or function in the tree, or else to the nature of the soil in which it is planted.

The adoption of such notions among the physicians of former days, and the seeming plausibility of them, speedily led to their propagation among the community at large; and from the minds of non-medical people in general, up to the present hour, may it be said that they are far from being eradicated. How often do we hear in the course of our practice of people talking of the blood being too "rich," or too "poor," too "thick," or too "thin," or too "hot," &c: and no class of persons seemed to have imbibed these false tenets with more avidity, or to have clung to them with more notorious obstinacy, than our grooms and farriers, and riding-masters and horsemen in general: for, are we not continually, up to the present hour, hearing these people complain of horses having "humours in their eyes," "humours in their skin," and being "full of humours"? Were it at all necessary to illustrate what I have just affirmed, I might cite the most ridiculous and absurd passages from works on farriery and horsemanship, even of modern date: but it is not; nor would it be worth my while to dwell upon the subject at all, were it not to show that the doctrine is not merely erroneous, but a dangerous one to entertain, in consequence of its dictating a mode of treatment both indirectly injurious from want of efficacy, and positively pernicious from co-operation with the morbific agents themselves.

By the humoral pathology, we are taught to believe that there is some peccant or offending matter floating about in the fluids or humours; and that, nature requiring the expulsion of

this imaginary acrimonious matter, instigates a diseased action in the constitution for that purpose; which it may be right to promote, but is on all occasions wrong, on the part of the practitioner, either to check or to suppress. On which accounts it was that this doctrine, when introduced into practice, turned out to be pregnant with all sorts of dangers.

Unsupported by the progress of science, and both inefficacious and dangerous in practice, the humoral pathology gave place to a set of more sound and wholesome principles: as commonly happens however, on such occasions, the introduction of an entirely new doctrine has not been brought about altogether exempt from error, or, at least, from that which has given rise to fresh dispute.

For example, the blood, the principal of the humours, although it occasionally exhibits morbid appearances, is yet, it is said, never in itself diseased; in other words, does not imbibe any morbific ingredient. In support of which doctrine, the two principal arguments are, first, that if it were in itself in a state of disease, at it flows to every part of the body, the morbid matter it contains ought to create *general* and not local irritation; and, secondly, that if it were so in contagious diseases, we ought, by means of inoculation with it, to produce effects such as arise from the actual introduction of contagious matter. In reply to the first of these arguments, it may be asked, if there exists any disease that affects alike all parts; and why, on the contrary, so many seem to have a predilection for particular organs or structures? In man, for instance, small-pox and measles manifest their influence upon the skin in particular; scrofula is a disease of the absorbent system; the venereal disease attacks the organs of generation, the throat, the skin, and the bones. In the horse,we have farcy, which is a disease of the *superficial* absorbents, in exclusion to vessels of the same class and kind that are *deep-seated;* and glanders generally confines its ravages to the mucous membranes of the nose and sinuses of the head. And yet, all these are (with the exception of scrofula) contagious diseases, in most of which, if not in all, the circulating mass of blood is contaminated.

The second of these positions is still less tenable than the first. No one ever imagined that any morbific matter the blood might contain, existed therein in so concentrated a form as to take effect through the medium of a drop or two of that fluid; any more than that glandered or venereal virus, diluted with fifty or a hundred times its weight of healthy matter, would impart the disease through inoculation with a fiftieth or a hundredth part of such a mixture. Do we not, medicinally, take (not only without any baneful influence, but with great and decided benefit) small

portions of substances of so poisonous a nature, that the old practitioners in medicine were, on that account, wholly deterred from the use of them!

But, without any further reasoning, we may adduce an experiment made some years ago, at the Veterinary College; which, in our mind at least, sets the subject beyond the pale of disputation. (Premising that glanders is a contagious disease, and one that is at all times communicable by inoculation.) The blood of a horse affected with that malady was transfused into the veins of an ass in good health, previously prepared for the influx by a copious bloodletting. In the usual interval of time, the ass exhibited every symptom characteristic of glanders; and shortly after died under the deleterious consequences of it.—This leads me to make a few remarks on

Transfusion,

By which is meant the transmission of blood from the vessels of one animal into those of another. No sooner was the circulation of the blood admitted to be founded in truth, than some fertile imaginations conceived that much benefit might accrue from transfusion.

"The first attempts were made upon animals, and they had complete success. A dog having lost a great part of its blood, received by transfusion that of a sheep, and it became well. Another dog, old and deaf, regained by this means the use of his hearing, and seemed to recover his youth. A horse, twenty-six years old, having received into his veins the blood of four lambs, recovered his strength."

Flattering as these experimental results were, it ought not to surprise us that man himself soon became the subject of a similar trial. "Denys and Emerez, the one a French physician, the other a surgeon, were the first who ventured to try it. They introduced into the veins of a young man, an idiot, the blood of a calf, in greater quantity than that which had been drawn from them, and he appeared to recover his reason. A leprous person, and another with a quartan ague, were also cured by these means; and several other transfusions were made upon healthy persons without any disagreeable result."

However, some sad events happened to calm the general enthusiasm caused by these repeated successes. "The young idiot we mentioned, fell into a state of madness a short time after the experiment. He was submitted a second time to the experiment; and he was immediately seized with a *hæmaturia*, and died in a state of sleepiness and torpor. A young prince of the blood royal became also the victim of it; and the parliament of Paris

prohibited transfusion. A short time after, G. Riva, having in Italy performed transfusion upon two individuals, who died of it, the Pope prohibited it also. From this period, transfusion has been regarded as useless and even dangerous."

In the face of all this discouraging relation, however, and in human practice too, transfusion has been, *partially* at least, once more revived. And, considering the present improved state of physiology, the improved state of our instrumental means for the purpose, and the hopelessness of the cases in which such an experiment is had recourse to—that of a lying-in woman sinking from hæmorrhage—the practice cannot be censured: on the contrary, from the success which has in several instances appeared to attend it, the trials ought to be accounted highly praiseworthy. As far as the practice has gone, we seem to have obtained possession of one fact concerning it, which is, that the blood should be taken from an animal of the same kind as the one intended to receive it, and from one in full and perfect health.

ON SPONTANEOUS RABIES.

By Mr. DEWHURST.

To the Editors of "The Veterinarian."

Gentlemen,

IN the number of your journal for last June, among a series of able annotations on Rabies, by Mr. Youatt, appended to Dr. Elliotson's case of hydrophobia, detailed in his interesting clinical lecture, Mr. Youatt, to use his own words, "*demands some proof of its ever being spontaneous in the dog or the cat,*" and wishes for *one* authenticated proof of it, as, notwithstanding all his experience, he has not seen it occur without previous inoculation. Now, I do not pretend to have had much experience, but I have seen a little of this disease, both in the human as well as in the canine species; and perhaps may be able, by the relation of one case in the latter, to answer the question of that gentleman, and I trust with satisfaction.

It is well known that many persons keep dogs eternally confined by themselves to their kennel, or in a cellar; and I am acquainted with some who never let these unfortunate creatures enjoy the least liberty. A fine spaniel dog, kept by an old widow lady, for the protection of her house, and confined in a coal cellar, the door of which was kept open towards the area, was seized with symptoms indicating a violent attack of rabies, but which need not here be enumerated; and after lingering

several days, to the great terror of his mistress and her servant, he died. Being in the habit of attending the old lady professionally, I was soon informed of the decease of her favourite, and accordingly my request to open the body was soon granted, when the following were the appearances found upon dissection:

Head.—On opening the head, the dura mater had its vessels gorged with blood, as was the other membranes; the whole substance of the cerebrum was likewise in a high state of vascularity. The lateral ventricles contained *about* a drachm of bloody serum.

Neck and Thorax.—The upper part of the larynx, pharynx, and the whole œsophagus, I thought were more vascular than usual: and in the

Abdomen,—the intestines were completely loaded with patches of ulceration; and where it was not affected by this process, the mucous membrane was as if painted with dark crimson venous blood*: and the stomach exhibited the usual morbid appearances which have been so well explained in THE VETERINARIAN, and in Mr. Y.'s re-publication, that I have no occasion to mention them here; but suffice it to say, that the morbid appearances he has stated, generally, were nearly all found in the dissection of this animal.

Observations.

In this instance, I am of opinion that this was a case of spontaneous rabies, for there had been no communication with other dogs. This creature was kept tied up and secluded from the society of his species, as he had been in the custody of his mistress for five or six years, and I do not believe was in the street as many times: I am positive that the last time was nearly a year before his death. If this was not a case of spontaneous rabies, permit me to enquire of Mr. Youatt, what it was? I may add, that I was not alone in my opinion on this subject, inasmuch as several talented professional friends coincided with me.

With regard to the original cause of this disease, it is an important question; and in endeavouring to form something like a plausible theory, I trust I shall not be charged with ridiculous or extravagant notions on this head; but that the experience of some of your correspondents will support or set aside my hypothesis by well authenticated cases, inasmuch as I wish for information upon this head. It is well known that but little attention is paid to the general health of dogs among the lower classes of society

* Some author, whose name I do not at present remember (I believe my late talented friend Dr. Armstrong), has, in severe cases of inflammation of the intestines, found the arteries filled with this dark-coloured blood, and in this case it might have been the same.

(unless we except those parts of the community ycleped the fancy, who keep dogs for the abominable purposes of fighting), and that numbers of them suffer considerably from the effects of disease, without the least attempt on the part of the owners to obtain or afford them relief: now, among many dogs, that I have opened for my lectures on comparative anatomy, I have found the intestinal canal in a condition similar to rabies: and I take the liberty of proposing two questions for the consideration of your readers. *First*, can violent inflammation of the bowels, or any other inflammatory affection, terminate in rabies? *Secondly*, are the agonies arising from morbid affections ever attributed popularly to rabies? I am of opinion that the first does so; and if we may form any analogy from high visceral inflammation in the human subject, where the pain is on some occasions so intense as to create almost a state of madness. And with regard to the second, I believe that the least symptom of extreme pain has been mistaken by many timid persons for rabies, and the life of the unfortunate animal suffered accordingly. It is, therefore, highly important to society that a line of demarcation should be drawn between rabies and other diseases of an inflammatory nature, (and I consider rabies or hydrophobia to be one affecting the vascular, vital, and nervous systems*) and that they should be correctly understood, so that, in order that the truly rabid animal may, in the present state of our ignorance, be destroyed, while one whose disease is capable of alleviation may be relieved: and I doubt not this will be done in the popular treatises on these subjects, (viz. the Farmer's Series) of which Mr. Youatt is the author.

I have to apologize for the length of these remarks; but as Mr. Youatt solicited discussion on this important topic, I trust these remarks may not be considered unworthy of your attention, and of that gentleman, but likewise meet insertion in an early number.

I remain, Gentlemen,
Your's obediently,
H. W. Dewhurst.

71, Grosvenor Terrace,
Vincent Square, Westminster.
July 8, 1830.

* At least, dissections suggest this idea.

THE INFLUENCE OF TONICS, AND THE IN-DOOR SYSTEM, IN PROMOTING THE CONDITION OF THE HORSE.

By NIMROD.

To the Editors of "The Veterinarian."

Gentlemen,

PRESUMING on the interest I take in every thing relating to horses, I send you the following statement, which I much wish may be inserted in your valuable publication.

Two years back I purchased a thorough-bred, five-year-old mare, for £60, from Messrs. Elmore, Duke-street, Manchester-square. Soon after she came into my stable, I became alarmed at appearances, and begun to suspect that I had purchased any thing but what I wanted, namely, "a good poor man's horse." The mare would not eat more than two feeds of oats a-day, and those not without beans; and she wasted much in work. On making known these circumstances to Messrs. Elmore, they, with the liberality which characterizes their dealings, wrote to inform me, they would take the mare again, on my sending her to their stables free of expence.

It may be asked, why did I not accept their offer? In the first place—the action of this animal, with her fine, lengthy shoulders, was just what I delighted in; and, secondly, I considered her a fair object for experiment in the stable.

Treatment the first year:—With the hope of improving her appetite, I gave her two drachms of aloes, three mornings in succession, with no visible effect. Shortly after, a dose of physic containing seven drachms: no effect! Ditto repeated: no effect! Mr. Biggs, V.S. of Basingstoke, then gave her a dose (a common aloetic purge): no effect. He next gave her a liquid, purging dose: effect only just visible. Suspecting a torpid liver*, he gave her a mercurial bolus over night, and an aloetic purge in the morning: not the smallest visible effect; but she appeared more lively, and fed somewhat better. Under these circumstances she struggled through the first winter, a disgrace to any man's stable.

First summer:—Soiled occasionally; with hay at night, and three feeds of old oats a-day. Threw out some muscle, and appeared less languid. When put to work again, however, her coat

* There was no appearance of worms, neither had she any.

became rusty, and flesh wasted, but still her eyes denoted improvement, and she felt equal to a stone more weight: appetite still precarious.

Early in the autumn, happening to be at Winchester, I mentioned her case to Mr. Moulden, V.S. of that place. He confirmed Mr. Biggs' suspicion—that the ducts of her liver were clogged, and that that organ did not perform its functions. He accordingly administered a preparation of arsenic, combined with powerful aromatics, which acted on her constitution like a charm. From that time she has stood her work well, and eaten as much corn as I should ever wish her to eat. Her eyes look bright and full; no hanging down the head as before; she has a crest hard and full, and all her muscles are luxuriant; and I have since given her two common, mild doses of purging physic, which operated just as I wished.

Second summer:— the present. Up to this period, I have ridden this mare on the road: every one who sees her, admires her; and I was offered £100 for her, at Ascot, by a celebrated Leicestershire sportsman. I wish, however, to keep her, to prove, still further than I have proved, the benefit of the in-door system; and to recommend *patience* in the management of horse flesh, without which, hundreds of good horses are annually thrown away. "The first six years," said a well-known hard rider in the Craven hunt, to me, "that I rode my old chesnut horse, he was never well; THE LAST NINE, HE WAS NEVER ILL." *He* pursues the in-door system; and I scarcely think it necessary to give my opinion, that, had the mare I am speaking of been turned out to grass the two last agreeable summers, she would not, at this moment, have been worth £15 in any fair in England; but, in all probability, she would have died.

It will be recollected, I have been a strong advocate for tonics, in my several letters on *condition*, published in the Sporting Magazine; and their effect in restoring the tone of the digestive organs, in this instance, cannot be too publicly made known.

I will only trouble you with one other remark:—About the middle of last summer, a certain sporting baronet, well known to the veterinary profession at the west end of the town, wished to exchange a horse of his own breeding for this mare. I told him in my letter, dated July 2, 1829, that I could not *recommend* her as a hunter, for *she was not good in diet*. Such was decidedly the case the first winter; but, last winter, she surprised me greatly by the improved style of action she displayed in going over deep ground; and, should I live to ride her the forthcoming season with hounds, I have every reason to believe, from the change that

has been wrought in her constitution, and the great increase of muscle, that her action over deep ground will be as firm and good, as it is elegant and true over light.

NIMROD.

Beaurepaire,
July 20th, 1830.

ON THE MILK FEVER IN CATTLE, OR DROPPING AFTER CALVING.

By Mr. YOUATT.

FOR a short time after parturition, the females of all our domestic animals appear to labour under a high degree of febrile excitement. The bitch a few days after pupping, will sometimes pant, heave, refuse her food, become delirious, convulsed, insensible to external objects, and, except speedily relieved, die.

The ewe, shortly after lambing, heaves, drops, and almost suddenly dies; and the cow, two, three, or four days after calving, exhibits symptoms of the untractable and fatal disease which is the subject of this paper.

A high degree of febrile excitement accompanies the period of parturition; and local inflammations of the womb or the bowels, or any of the viscera, assume an intensity, a peculiar character, a degree of obstinacy, and a fatality unknown at other times.

The milk-fever of cattle is one of the opprobria of our art, principally for the reasons just stated; and because the practitioner is rarely consulted until the disease has almost run its rapid and fatal course. By farmers, and I fear by many practitioners, it is only recognised by the symptoms which attend the winding up of the tragedy. The earlier deviations from a healthy condition are unobserved by the agriculturist, and not recognised by the veterinary surgeon.

Any inflammatory affection of the womb, or of the intestines, and to which cows at this period are very subject, assumes, as I have stated, an intensity of character truly specific. The affection may primarily be that of some particular viscus, but it soon merges in a peculiar general inflammatory affection, as rapid in its progress as it is violent in its nature; and speedily followed by a prostration of vital power which bids defiance to every stimulus.

Cows in high condition are most subject to an attack of this disease. Their excess of condition disposes them to affections of an inflammatory character at all times, and more particularly when the constitution labours under the high febrile excitement accompanying parturition. It is not, however, peculiar to these;

but the poorest and most miserable cattle are occasionally the subjects of this disease; and especially if, on account of their calving, they have been moved from scanty to luxuriant pasture, or from low keep to high stall feeding. A great deal depends on the quantity of milk which the cow naturally yields. The great milkers are the most subject to this disease, and they are not always in the best condition. If from some affection of the system the secretion of milk is stopped, (and the stoppage of the milk is an early symptom, and one of the most frequent), it is easy to see that the violence of the subsequent fever may bear a near relation to the quantity of the suspended secretion. It has often been observed that the udder has enlarged, and become hot and tender a day or two before the attack. This enlargement and inflammation of the bag is generally attended by partial or total suspension of the milk. Milk fever does not often attack the cow at her first calving, because at the usual early age at which she first is bred from, much nourishment, and that which is the nidus or the matrix of excitement and fever, goes to the gradual development of her own form, as well as to the growth of the fœtus. Instances do, however, occur of the cow "dropping" after her first calving.

The early symptoms of the disease are evidently of a febrile character. The animal is restless, shifting her feet, pawing; the nostrils are expanded, and she heaves laboriously at the flanks. The peculiar secretion from the follicular glands of the muzzle ceases, and that part becomes dry and hot. The countenance is wild, and the eyes protruding. She wanders about, mournfully lowing,—becomes irritable—buts at a stranger, and even at the herdsman. The mouth is open, and the tongue protruded, sometimes almost as much as if she had the *blain*.

If the practitioner has fortunately been called in at this period, the disease will usually be subdued without much difficulty. If eight or ten quarts of blood be drawn, and a pound and a half of Epsom salts given, the fever will often disappear as suddenly as it rose*.

There is no principle by which the practitioner on the diseases of cattle should be so uniformly guided as the necessity of knocking down every inflammatory complaint at once by the

* I do not, however, believe that many of my readers would give the dose prescribed by Mr. Parkinson,—"a pint of salt in a quart of chamberlie;" or acquiesce in the force of the reasoning by which he recommends it: "The mixture of salt and chamberlie renders them thirsty, and the exercise they are compelled to take in obtaining water is very beneficial, and at no time of more consequence than about this crisis."—PARKINSON *on Live Stock*," vol. i, p. 20.

free use of the lancet. These complaints have a peculiar tendency in cattle to run their course with a rapidity which the human practitioner would scarcely think possible. A copious bleeding at the outset of the disease may arrest it at once; but a small bleeding, even in the early stage, and most assuredly when the case is advanced, will be worse than inefficient; for it will increase the natural tendency of the malady to take on a low and fatal form. If the salts should not act in six hours, eight ounces more should be given, and that dose repeated every six hours until the animal is freely purged.

Sedative medicines should next be exhibited, as digitalis, emetic tartar, and nitre, in the proportions of a drachm of each of the two first, and half an ounce of the last, and repeated two or three times every day.

In the majority of cases, this first and all-important period will have passed away, and the veterinary surgeon will be called in to witness the fatal winding up of the case, and perhaps to be censured for his want of skill in not being able to accomplish impossibilities.

The cow will now begin to swell: the power of digestion seems first to fail, and the paunch and intestines are inflated by fœtid gas. Let not the practitioner confound this with *hoove*, or dilation of the paunch alone, and think that by the introduction of the probang, or by puncturing at the flank, he can give permanent or even considerable relief. I should not object to the use of either of these means to relieve the distention in a slight degree, but to a slight degree only can it be relieved. The colon and the cæcum, and even the small intestines, share in the distension, and occupy the greater part of it. My friend, Mr. King, of Stanmore, whose practice on cattle is of longer standing and more extensive than mine, says, (VETERINARIAN, vol. ii, p. 394) that "the extrication of air is sometimes so great as to tear the stomachs from their adhesion to the diaphragm, and rupture that muscle." I think I could shew him that this is anatomically impossible; and I should refer the rupture of the diaphragm to the struggles of the animal before she is "down for good."

The cow will now stagger; the weakness will be principally in the hind quarters; and will rapidly increase; she will fall; get up; again fall, and at length remain unable to rise, her head bent back towards her side, and all her limbs palsied. And now, when in the great majority of cases no good can be done, the proprietor begins to be alarmed, and requires our assistance.

The duration of this second stage of the disease is more protracted than the first, but uncertain: I have known it endure

five days, and after that the animal has been saved. This, however, was a rare and a fortunate case.

The state of the bowels during the whole of the complaint is very uncertain. Sometimes a considerable degree of costiveness prevails; at others there is violent diarrhœa or dysentery, and the fæces are extremely offensive. In either case physic is indicated, and in the latter even more than the former. The pulse is very different in different cases. In the early stage it is usually quickened, but in some cases slower than the natural standard; in every case, however, it is *hard*. In the second stage it is always accelerated, and generally weak.

The most skilful treatment of the second stage is too often unsuccessful: the powers of nature are too far exhausted ever again to rally. The pulse must be carefully examined, and the general appearance and the remaining strength of the animal; and according to these, and with the finger constantly on the pulse, must the quantity of blood to be extracted be regulated; for I would always bleed even here, except the cow was evidently dying. This apparent weakness is occasionally very deceptive. It is the consequence of oppression and venous congestion, and not of exhaustion. Bleeding, with the finger on the pulse, should never be omitted, and if the flow of blood is stopped as soon as the pulse begins to falter, no harm can be done; generally temporary relief is obtained, and sometimes permanent good. Physic should here likewise follow the bleeding, and be repeated until the bowels be freely opened in cases of constipation, or the fæces have assumed thei rnatural character, if there has been dysentery or fœtid discharge. To this should succeed the exhibition of tonics, with aromatics, as gentian and ginger, in doses of half an ounce of the first and two drachms of the second, and given in a pint of good sound ale, or port wine and water, or, in cases of extreme debility, undiluted wine, and repeated twice in the day. The spirit of turpentine is occasionally given with considerable effect*.

* The following is Mr. Knowlson's recipe: "Take two ounces each of powdered aniseeds, grains of paradise, turmeric, carraway seeds, beast spice, and mithridate, and a quarter of an ounce of oil of almonds. Put them altogether in two quarts of warm ale, and give half of it every six hours. This is a great support, and will help to renew the blood."—P. 50.

Clater, after recommending a doubly-outrageous dose of aromatics and bitters, with ardent spirits, says, that "the good effects of the drink will soon be evident by its anti-febrile qualities, and that it promotes the milky secretions by destroying the acidity which has a tendency to choke up the lacteal vessels, and bring on an inflammation in the udder."—*Cattle Doctor*, p. 148.

We know that the system in this state of collapse will bear, without injury, excessive stimulation; but this seems to be a truly kill or cure course of proceeding.

If the pulse becomes round and soft under the exhibition of these medicines, the case is proceeding favourably; but care must be taken that we do not make more haste than good speed. The bowels must be kept open, and after they have been evacuated by the sulphate of magnesia, the action will be best kept up by four or six-ounce doses of sulphur. I have said nothing of clysters; not because I object to their use, but because they are not of much service in the cow, except she is very much constipated. I am not, however, a disciple of Mr. Knowlson, who says, "Many are for giving glysters; and I have known them given in this complaint until the animal has been blown as full of wind as she could hold, which was the direct way to kill her, for the glysters and air must fill the bowels; and yet some of these people call themselves cow-doctors. It is difficult enough to prevent her swelling, without giving her so many glysters as to cause her to swell." The tonics should be gradually diminished as the cure advances, and altogether suspended if the pulse gets hard and bounding, and the flanks begin again to heave. Opium in doses of a scruple, and emetic tartar half a drachm, will, under this stage of the disease, be very useful. If the fæces be very offensive, and the eructation of fœtid gas continue, a solution of the chloride of lime may be advantageously given in the proportions of one ounce of the concentrated solution to a half pint of water. This will be particularly indicated if the discharge from the womb be considerable and fœtid.

Attention should be paid to the comfortable situation and cleanliness of the cow. She should be watched before she actually drops, and got as soon as possible into the house, and well and warmly littered up. If she drops in the field, it may be difficult to get her home; and if bad weather comes on she will certainly be lost. The disease, however, most frequently occurs in the heat of the summer. She should be placed, if possible, on her belly, the fore parts a little elevated, and secured as much as may be in that position by trusses of straw; and she should be turned morning and evening, to prevent soreness and excoriation.

Gruel, and water a little warm, should be frequently offered to her; and if obstinately refused, she should be moderately drenched with thick gruel*. Bran or malt mashes may be

* I cannot refrain from again quoting from Mr. Parkinson: "After a cow has calved it is advisable to let her have an opportunity of drinking as much *cold* water as she will, but by no means *warm* water; the latter opening the pores and *letting in cold air*. By drinking much cold water their urine is increased, and the continual straining to void it causes them to force their cleaning."—*Parkinson* ut sup. vol. i, p. 20.

given, with a little sweet hay; but it should be remembered, that while moderate nourishment is necessary to recruit the strength of the animal, and support her through this dreadful struggle, the digestive powers share in the debility of the frame, and must not be too early or unduly taxed.

It occasionally happens, that the cow appears to recover a portion of strength in her fore-quarters, and makes many ineffectual attempts to rise; but the hind quarters are comparatively powerless. This partial palsy of the hind limbs is the natural consequence both of inflammation of the womb and of the bowels. The best remedy is the charge which is commonly applied to horses. All embrocations are thrown away on the thick skin of the cow. The constant stimulus of, and the support afforded by the charge, will alone effect the purpose desired. If, however, this partial palsy remains, a sling should be contrived by which the animal may be supported, and during the use of which she may be enabled gradually to throw a portion of her weight on the hind limbs, and re-accustom them to the discharge of their office. I should, however, be disposed always to give the animal a week or ten days to see whether she will be able to stand without assistance. There is a common consent among the different organs of the frame, both under healthy and diseased action. A partial or total suppression of the secretion of milk is frequently a very early, and, in some stage or other, an almost invariable symptom of the disease. The teats should be frequently drawn, and the discharge of milk again solicited; and when this and the healthy action of the bowels can be re-established, we may venture to predict that the animal will do well.

The post-mortem appearances are various and unsatisfactory. Occasionally there has been little to indicate the seat of disease or the cause of death. At other times there has been much inflammation of the uterus, or the bowels, or the mesentery, with ulceration, adhesions, and serous effusion. Some veterinary surgeons have stated that the flesh of a cow that has been killed while "down after calving" is not injured for the butcher. The carcases of those who are destroyed by the disease are usually most unfit. There is a great deal of venous congestion, or of yellow serous infiltration, which renders the meat not only unpleasant to the eye, but manifestly unwholesome.

That it is epidemic there is every reason to suppose. The veterinary surgeon may be a considerable time without a case; but if one comes under his notice, it is usually followed by several others. We are not justified, however, in attributing to it the contagious character by which a similar disease in the human subject is so fatally distinguished. This, however, is

a point which well deserves the most careful attention of the veterinary surgeon. The accounts of the extent to which puerperal fever has been unconsciously communicated to his patients by the human practitioner are most appalling.

That there is a constitutional tendency to this complaint cannot be denied. Beasts in high condition are peculiarly subject to it; and an animal that has once experienced an attack of it is rendered more liable to the disease than she otherwise would have been at the next or some future calving. Agriculturalists are perfectly aware of this; for if a cow recovers from milk fever, she is fattened and sold as soon as her milk is dried.

Something may be and is done by many graziers in the way of prevention. If the cow is in a high or dangerous state of condition, and has been fed on luxuriant pasture, it will be very proper to bleed her, and give her a dose of physic, and remove her to a field of much shorter bite, a few days before her expected time of calving. I believe that many valuable animals have been saved by this precaution.

ON CRUELTY TO HORSES.

By L. Gompertz, *Esq.*

To the Editors of "The Veterinarian."

I felt some surprize while happening to turn over the pages of a publication called "The Hippiatrist," at finding a transcript of an incorrect report in the *Morning Herald* of a prosecution instituted by me at Bow Street, which the author of the Hippiatrist thought proper to preface with some scurrilous observations of his own upon myself, and upon the society I have the honour to belong to, but by which it is well known I am not *employed*, as the author falsely asserts me to be. He begins with the very necessary precaution of telling his readers that he is not "an advocate for severity;" and his pretensions to humanity opportunely succeed an article which, were it not for this information, might have induced a quite opposite belief, however discordant with his profession of alleviating the sufferings of the horse, by which noble animal he lives, and which by every good feeling he would be induced to protect. He says that he copies the article "from an old work on horsemanship, evidently the result of much experience in the modes of treating horses and the art it professes to teach." "We are not, however," says he, "advocates

for severity; but still we think that the gentleness and forbearance affected by some persons may be carried to a ridiculous extent." This is loosely enough expressed; but it manifestly implies the editor's approbation of the general system.

The article has the following characteristic motto, "Fear doth much, love little." It says, "Pluvinel and most of the great masters in horsemanship praise gentleness, and flatteries, and making much of horses, either by clapping, stroking them, or speaking flatteringly unto them, or giving them some reward to eat." He is speaking of what he calls "dressing" or breaking in a horse; "but some horsemen never make much of them, for courtesy doth no good, but makes them presume, and fear makes them diligent still to obey. I seldom let a fault escape without punishment; and if they make none they are not punished, and *there's their reward.* They are punished with nothing but the spurs, for all whips, even of wire, chambrieres, or bull's pisles, are toys. Fear is the sure hold, for fear doth all things in this world. Love little, and therefore let your horse fear you."

After concluding this abominable article, and which ought never to have been brought before the public, except for the sake of expressing indignation at the practice which it inculcated, the editor of the Hippiatrist goes on to illustrate his own opinions and feelings by referring to a late charge of mine, preferred against a carman, before Sir Richard Birnie, for cruelty to his horses.

The case I allude to was that of a carman, who, as I had stated on oath, had unmercifully lashed a broken-winded horse, heavily laden, about the head and other parts of the body, by which it was covered with sweat, much whealed, and greatly distressed. The defendant produced a man, whom he styled the agent of the master of the horse; and this person, though he did not pretend to have been present, denied every fact constituting the charge.

I then requested leave to call another witness to corroborate my statement, this being, indeed, the person who had summoned the defendant: but he was not allowed to speak, Sir Richard observing, that if he could only prove what I had related, he could prove no offence, as *whipping* was not contemplated by the act. I replied that it was contemplated,—that I thought the word *whip* was mentioned in the act, but that, if mistaken in this, the offence was distinctly included, as the horse had been severely *beaten* (with the lash), and had been much *ill-treated,* which words the acts did contain; (the report stating that I acknowledged the reverse is false). He then said, "I dismiss the case." I observed, that other magistrates considered whipping as included

in the act;' to which he replied, "I do not care about other magistrates;" and asked some person whether he could not charge me with false imprisonment of the defendant; when on being answered in the negative, he said, "I will fine you five shillings for the defendant's loss of time." I expressed myself perfectly agreeable to it; and he answered that he did not care whether I was agreeable or not. I then observed that I would take further proceedings, as I considered thé decision unlawful. He replied, "You are an impertinent scoundrel,—I think I will have you taken into custody;" and ordered his officers to "turn the fellow out."

Your valuable journal is scarcely the place for me to investigate the strange conduct of Sir Richard Birnie, or I might ask whether this was the conduct of a wise, humane, and experienced administrator of justice, or rather of one who, under the shield of his office, ventured to insult, because he imagined that insult might be offered with impunity; and whether such conduct does not encourage the very crimes which a magistrate is bound to repress. On a former occasion, this very magistrate did punish a man for the same offence: another magistrate has done so since, and so have almost the whole of the magistrates who occupy these seats of justice in the metropolis and its environs. I leave this impetuous man to the censure of his superiors, of every good man, and of his own heart.

My business is now with the editor of the Hippiatrist. Instead of expressing, in common, I believe, with the public feeling, his surprise at the result of the business, this *humane man*, who is "not an advocate for severity," steps forward, uncalled and unprovoked, as the enemy of mercy, and speaks of humanity being "carried to a ridiculous extent," and of the "officious and ignorant meddling of the would-be cruelty reformer;" and, although the horse was broken-winded, and whealed, and distressed, and covered with sweat, coolly says, that "all that could be made out was, that a few strokes of the whip had been applied." In the following number he copies my remonstrance to the editor of the *Morning Herald*, from whose paper he had taken his account of the transaction. But for what purpose does he copy it—to apologise for his previous gratuitous abuse? No such thing: but to add insult to insult; for thus he winds up the affair:—"What has constituted this Mr. L. Gompertz a judge as to a horse being broken-winded or as to what is unmerciful whipping does not any where appear. We certainly think that, even from his own shewing, this meddling man," (who was fined, blackguarded, and ordered to be turned out of the office), "and his cruelty case, were leniently disposed of."

I do hope, gentlemen, that the opinion of this veterinarian, as to the proper treatment of the horse is not that of his brother practitioners, otherwise you are in truth little emerged from that barbarism from which you are endeavouring to rescue your profession, and are not worthy that the generous horse should be committed to your care. Such a man must be the actual if not the designed enemy to the improvement and respectability of his profession.

I trust that your sense of justice,—justice to the individual that addresses you,—to your own brethren, to animals placed under your care, and to the cause of humanity, will induce you to give a place to this letter in your next number.

I am, &c.

L. GOMPERTZ.

Kennington Oval,
July 22, 1830.

THE VETERINARIAN, AUGUST 1, 1830.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

WE are not disposed to enter into the immediate cause of difference between our last correspondent and our brother Editor farther than this, that we are perfectly assured, that if our contemporary had not been misled by a false report, or had he known the situation and character of Mr. Gompertz, he would not have used him quite so unceremoniously. We have long had the pleasure of knowing Mr. Gompertz as a gentleman of education and humanity. We have known him to be a competent "judge as to a horse being broken-winded, and as to what is unmerciful whipping," from the possession and the use of the horse; and had our brother Editor seen, as we have, one of the four-footed dependants of this gentleman, after a life spent in his service, toddling about the paddock, and neighing at the distant sound of his master's voice, and following him even into the very house, he would have deemed his occasional attempts at "cruelty reformation," if "officious and meddling" (we do not think that they were in this instance), yet faults which "leaned to virtue's

side," and not to be punished with something approaching to insult and abuse. We should say,

> " You are a little,
> By your good favour, too sharp; men so noble,
> However faulty, yet should find respect."

We are, however, perfectly convinced that our contemporary would never be the " advocate for" unnecessary " severity."

On the other hand, the feeling of having been attacked in a manner, when the real circumstances of the case were known, " uncalled for and unprovoked," will perhaps be deemed a perfectly satisfactory apology for great warmth of language on the part of our correspondent.

But, putting all this out of the question, we somewhat eagerly avail ourselves of the opportunity to discuss a subject on which neither veterinary practitioners nor the public seem to have formed definite ideas, or concerning which they appear to have agreed on principles by which their conduct should be guided; we mean the treatment of our domestic quadrupeds, and of animals generally.

Have brutes any rights? Have they any claim upon us for good usage; or were they created for our convenience, and abandoned to our caprice?

Let power be conceded to be the origin of right. Let them be identical terms, as perhaps they originally were. Let it be conceded that superiority of intellect has enabled us to make the brute creation our slaves; and that, having enslaved them, we have a right to the full exaction of their services. Still, in the isolated man, the mode in which those services could be most advantageously exacted would be the guide of his conduct to them; and when we have linked ourselves in society, the mode in which their services may be rendered most valuable to the community, as well as to individuals, would be the guide of action: and then comes the question, Will mild or cruel treatment, moderate or murderous exactions of service, care or neglect, regulated conduct or wild and unfeeling caprice, best conduce to our obtaining all we can enjoy from the subjugation of the inferior creation?

We appeal not to the passions; we wish not to mislead by declamation; but we place the subject in apparently the most self-

ish, yet we believe, when it is traced in all its directions, the most rational, the only true ground, how shall we best derive from our quadruped servants the advantage their subjugation affords us? It would need no laboured detail to shew that humanity and interest would here go hand in hand:—that the advantage which we derive from our slaves would be commensurate with the care we took to put them in a condition to labour; to maintain them in that condition; to give them the disposition willingly to exert themselves for us; to tax them not beyond their natural powers; to restrain our own occasional ill temper, which would lead us to transgress the rules which self-interest had established, and which might gradually form in us a habit of passion or cruelty inconsistent with these rules; to restrain deviations from them in others, and, for the same reason, lest habits should be formed inconsistent with the general interest, and bad example should give them extension; and by degrees to associate with this principle of interest the aid of feeling, a feeling honourable and pleasing, ay, and beneficial too—the feeling of humanity.

It would be difficult to point out a departure from this feeling which would not be prejudicial to the interest of the individual or society; and if so, which the voice of society and the laws of society ought not to restrain. It would be difficult to imagine a single instance of cruelty to any animal which would not call for immediate restraint or punishment, on account of the injury done to the individual or society, and the greater mischief which might result from the influence of bad example.

The laws relating to animals turn, and properly turn, on this principle; for it is a principle sufficiently extensive for every humane purpose, if legislators would make it so. The rights and comforts of the brute would be perfectly comprehended in the rights and welfare of society. We may hereafter take occasional opportunity to shew the application of this principle to particular cases; its wide extent, and yet its natural limits; its beneficial operation, and the strange neglect of the advantages that might be derived from it: at present, we limit ourselves to the bearing of the principle or law of humanity on the conduct of our profession.

There was an expression of the venerable Sir W. Blizard, at the students' dinner of 1828, which we trust will never be erased from the memory of the veterinary surgeon:—"Remember, gentlemen," said he, "that your reputation and success must be founded on the union of science and humanity." Science, more widely diffused among us by that improvement in veterinary education which the whole body of practitioners seem now united in determining to effect; and humanity resulting from that habit of thought, and propriety of feeling, and advancement of station, which would be the necessary and happy result of an improved education. Increase of science *we will have;* increase of humanity we must possess, or we can never do justice to ourselves, our employers, or our patients.

The object of our profession is to mitigate or remove the pains and diseases of those who have, although our slaves, common feeling with us. Can we honestly, heartily, successfully, employ ourselves in this, if we do not sympathize with them; if we do not love to see them happy, and contemplate their sufferings with regret? Can the brute who regards them as mere machines, devoid of rights, placed without the pale of justice, created merely for our purposes, and to be sacrificed without crime to our caprices; can he, by possibility, so identify himself with his profession as to neglect no opportunity to mitigate pain, and to spare no exertion to increase enjoyment? This is the duty, and ought to be the pride and the pleasure of every veterinary surgeon. Regard to reputation, and sense of duty to our employer, are powerful principles of action; but there is another as powerful, which the scenes we daily witness, and the means by which we live, should form and establish—*sympathy with the feelings of our patients.* What! with the feelings of brutes? Yes! brutes as we call them, but who possess, in common with us, attention, and memory, and imagination, and reason, and ideas of reflection, and feelings of gratitude, and truth, and duty; in fact, all whose intellectual and moral powers differ from ours not in kind but merely in degree.

Dare we trace the education of the veterinary surgeon so far as humanity is concerned? See him at the College attending a necessary but severe operation, jostling and wrestling with his fel-

lows for the best view; execrating the struggles of the agonized animal, and mocking its groans; not one expression of commiseration heard from a considerable proportion of the spectators; not one calculation how far a part, at least, of the torture may be saved, consistently with the object of the operation; the loud laugh and the ribbald joke drowning the voice of the operator; or the operator himself, when not too much annoyed by the shameless indecency of the scene, pausing in the midst of his work, and joining in the laugh. We have sometimes thought that if a stranger were present at this unnatural exhibition, he would imagine that we were training for purposes of brutality and not of humanity; and be very cautious how he entrusted a valuable and generous animal to our tender mercies: and sure we are, that scenes like these are more calculated to train us to become butchers than surgeons; and hence, in a great measure, it is that so many of our operations are performed in a butcher-like and unprofessional manner. We are aware that one of the most important requisites in a surgeon is perfect self-possession; and that the feelings of the patient should, for a moment, merge in the important object of the operation; but this is different from those exhibitions in which there is no previous comparison of suffering and advantage, and no subsequent commiseration. It cannot be denied that circumstances do sometimes attend the operations of veterinary surgery which would meet with universal execration in the theatre of the human surgeon: the inevitable consequence of this on the mind of the young practitioner has not been sufficiently calculated, or, rather, the error has been, that we have not felt ourselves bound to regard the feelings and the sufferings of the quadruped.

A more protracted residence at our places of veterinary tuition, by bringing young men of superior stations in life, and better previous education, will, by degrees, correct these principles and habits, which too much characterise, and yet disgrace the groom and the smith.

Practice alone, founded on anatomical knowledge, can give expertness in operation. The human surgeon practises first on the dead subject; and his instructor or his senior, standing by,

can explain the reason, the importance, or the danger of every step. The veterinary pupil has advantages far superior to those which are enjoyed by the student of human surgery. At the knacker's he finds a constant supply of dead subjects, and he procures them, or the parts he wants, at a cheap rate. But this does not satisfy him,—he, "vox faucibus hæret!" with fewer operations generally to perform, and still fewer of importance, practises on the *living* subject. A knot of pupils go to the knacker's; they bargain for some poor condemned animal; they cast him, and they cut him up and torture him alive. They perform the nerve operation on each leg and on each side; they fire him on the coronet, the fetlock, the leg, the hock, and the round bone; they insert setons in every direction; they nick him, they dock him, they trephine him: when one is tired of cruelty another succeeds; and, at length, perhaps they terminate his sufferings by some new mode of destroying life. Did the Coopers, the Greens, the Brodies of the present day thus acquire precision and judgment; or, if they had, would they not have been supposed to have been qualifying themselves for the office of familiars at the inquisition, rather than of humane surgeons? would they not have been detested while living, and held in lasting execration when dead? But, these operations on the living subject teach the youngster how to accommodate himself to the struggles of the animal; how to feather his lines with mathematical exactness, and to acquaint himself with the true colour produced by the iron when it has seared the skin sufficiently deep! Would not one or two operations on the real patient have given all of this that is necessary, without engaging the conservators of the health and enjoyment of the horse in the function of demons; and giving them an indifference to suffering and a callousness of feeling which taints the whole course of their after practice?

That school wants reform which by the dearth of operations that are committed to the pupils tempts to the commission of atrocities like these. Every pupil, after having been compelled to operate once, or twice, or thrice on the dead subject before the Professor, should, in his turn, be called on to operate on the different cases which are brought to the College. Under the immediate

inspection of the Professor there could be no danger to the patient; and one operation, every step of which was guided and directed by the Professor, would be more useful to the student than a hundred at the knacker's yard: but according to the present system, nearly all the operations are performed by the Assistant-professor and the Demonstrator; and the pupils are permitted only to look on; and, except at the knacker's, perform not a single operation on the living subject during the whole of their residence at the College. Some alteration is here imperiously required.

In some future numbers we will enter more fully and methodically into our subject.

Extracts from Journals, Foreign and Domestic.

Intermittent Fever in a Mare, afflicted with Chronic Pleuro-Pneumonia, and which terminated in Effusion.

By M. Legard, *V. S. 10th Chasseurs.*

[Journal Pratique, Nov. 1828.]

On the 18th of May 1827, at 9 A. M. a chasseur informed me that the mare of Captain Eyroux (twelve years old) was violently trembling all over. I found her with her head hanging down, ears cold, pulse small and slow, shiverings general and strong, and particularly so in the hind quarters. Imagining that she might have drunk too much cold water, after which I had seen similar appearances, I ordered her to be put on mash-diet, to be well rubbed, and warmly clothed.

An hour afterwards I saw her again. She was evidently in a state of fever. The pulse was full and quick, and the temperature of the body considerably above the natural standard.

At noon she was apparently well, and so continued until the following morning at 9, when the shiverings returned as violently as the preceding day. I ordered her to be well rubbed, and warmly clothed; but the symptoms of fever succeeded as before, and lasted about half an hour. I took away 4½lb. of blood. A little chaff alone was given to her, and water whitened with barley-meal, and to which was added a small quantity of nitre.

20th.—The same symptoms at the same hour. V. S. ℔ii; two setons in the chest, smeared with blister ointment. Gentle

opiates with gum arabic. Severe diet. Lukewarm white water, with nitre and honey.

21*st*.—The setons had caused considerable swelling, and I had anticipated a good result from them; but at the usual hour the shiverings returned, and the fever succeeded, but not quite so violently. V. S. ad. ℔ii. Setons stimulated. Medicine and regimen continued.

22*d and* 23*d*.—Symptoms much abated. The mare was eager to eat, but all solid food was denied.

24*th*, 27*th*.—The fever is apparently yielding. The setons discharge abundantly. The medicine and white water continued. Give four or five pounds of chaff.

28*th*.—Shiverings have returned more violently than ever at the same hour. The mare seemed ready to fall from their violence. The fever succeeded, also more intense.

Not knowing whether to consider this fever as idiopathic or as connected with inflammation of some important organ, although there was no symptom which indicated the inflammation of any particular part, I consulted with my colleagues. Their opinions were divided; but at length they seemed to regard gastro-enteritis as the cause of the fever. I much doubted this, since the case offered no symptom of this malady so common. At length I adopted a mode of treatment suited to inflammation of the digestive canal. V. S. ℔ii. Two setons on the lateral parts of the abdomen. Medicine as before; frequent mucilaginous drinks, and emollient clysters; and for food, the white water warm, and with honey.

29*th*.—Swelling about the setons. The same access of fever at the same hour. The mare most eager to eat.

30*th*, *and June* 1*st*, 2*d*, 3*d*.—Access of fever at the same hour, but in a slighter degree.

4*th*.—Shivering, and subsequent fever much diminished. A mucilaginous drink three times in the day, with half an ounce of sulphate of magnesia.

5*th*, 6*th*.—No shivering or fever. The animal appears to be well, and eager to eat. Three or four pounds of chaff given.

7*th*.—No fever, but quickness and irregularity in the heaving of the flank; pulse small and hard. I attributed this to the change of food, and ordered a strict regimen. Mucilaginous drinks.

8*th*.—The mare did not lie down in the night. The suppuration of the setons stopped; the heaving of the flanks more accelerated; pulse small and not very hard; dry and painful, but not frequent cough; slight œdema under the chest. V. S. ℔ii, Stimulate setons. Drinks as before, and the vapour bath.

9*th*.—She has not lain down. No suppuration from the setons. Respiration more accelerated, laborious, and irregular. Great dilatation of the nostrils. I now suspected effusion, and changed the mode of treatment. Opiates, purgatives, and diuretics. Setons stimulated with spirit of turpentine. Scarification of the œdema.

10*th*.—Head depressed. Respiration jerking. Both fore and hind legs widened. Eye fixed. Pupil dilated; pulse scarcely perceptible. No medicine.

11*th*.—The mare began to stagger, and at four o'clock in the afternoon fell and died.

Post-mortem Examination.

On opening the chest, fifteen pounds of a yellow liquid, containing much flocculent matter, escaped. Adhesion of the pleuræ, by ligamentary bands. In other parts the pulmonary pleura grey and wrinkled, or covered by false membranes which were easily torn. Adhesion between the pulmonary and diaphragmatic pleuræ.

The lungs, particularly the right lobe, gorged with black blood, with a few tubercles and vomicæ. Dropsy of the pericardium, but no trace of pericarditis.

No other viscus much affected.

Observations.

Without discussing the question of the existence or non-existence of idiopathic fever, to what shall we attribute this disease? Was it the consequence of gastro-enteritis? I cannot believe that. Or was it secondary to pleuro-peripneumony? I leave to others the task of answering this question*.

I report this case, as being of very rare occurrence among domestic animals.

The Post-Mortem Examination of a Rabid Ox.

By *Messrs.* Dupuy *and* Prince.

[Journal Pratique, June 1830.]

An ox, aged two years, died in a village near Toulouse, and was carried to the Veterinary School, and opened on the 14th of March 1830.

* The question is not difficult to answer. The fever was the result of inflammation of the lungs and the pleuræ, as the post-mortem examination proved. The method of treatment could not have been altered had he regarded the malady as simple effusion. He has perfectly availed himself of every indication.—*French Editor.*

Digestive passages.—The cavities of the mouth and pharynx, were thickly lined with very viscid mucus. The bursal membrane was red at the base of the tongue, and the numerous follicles that open on its surface were surrounded by a distinct red areola. The membrane was neither thickened nor softened, and the sub-mucous cellular tissue, presented some capillary injection. None of the pustules of Marochetti were found.

The internal membrane of the fourth or true stomach was of an ashy-grey colour, and the coats of their natural thickness and structure. This membrane presented numerous little spherical prominences, of variable size, caused by the presence of some gaseous fluid in the sub-mucous cellular tissue: with this exception, it possessed the character of health. The mucous membrane of the rest of the alimentary canal was healthy, except that there were the same prominences as in the fourth stomach; but they were confined to the line at which the small intestines were united to the mesentery, and they were collected in spaces of ten or twelve inches in length, with intervals of five or six feet. The same appearance was observed in the cæcum, but it ceased at the commencement of the colon. The greater part of these prominences were as large as olives.

The lobules of the pancreas were separated by a gaseous fluid. The bladder was contracted in an extraordinary degree, and exhibited on its mucous coat a few arborescent injected vessels.

Chest.—The cellular tissue separating the lobes of the lungs was the seat of some unusual collections of elastic fluid, grouped together in little cystiform cavities, a line in diameter. On cutting into the pericardium, more than a pint of reddish serous fluid escaped, but the membrane itself exhibited no morbid appearance. The substance of the heart was pale and easily separated. The internal walls of the cavities of the heart were of a deep cherry-red colour, but the lining membrane was transparent and without colour; while the cellular tissue beneath was highly injected. The anterior aorta, as far as its division, and the thoracic aorta, contained a firm black clot of blood.

Brain and spinal chord.—The small vessels beneath the arachnoid membrane were injected, but the substance both of the cerebrum and cerebellum were unaffected. The corpora striata, thelami opticoram, and tubercula quadrigemina presented a dark injection, without any softening of substance.

In the spinal chord beneath the tunica arachnoidea was a reddish liquid, like the lees of wine, the third of a line in thickness. All the spinal chord, from the separation of the decussation of the corpora pyramidalia, displayed in these two substances a want of consistence. This softening was more evident poste-

riorly, and at the lumbar region. The roots of the nerves proceeding from the spinal chord seemed to be softened, but were not discoloured. The ganglions of the superior roots were red externally, but possessed their ordinary grey appearance within.

These lesions reduce themselves to those which indicate irritation of the mouth and the pharynx; the grey tint of the fourth stomach; the sub-mucous emphysema of the stomach, intestines, and pancreas; the contraction of the bladder; the interlobulary emphysema of the lungs; the irritation of the pericardium, the heart, and great vessels; that of the tunica arachnoidea of the spinal chord; the injection of some parts of the brain, and the softening of the spinal marrow. Can we by these morbid appearances recognize rabies? Could we say that the animal died mad? Pathological anatomy is far from this degree of certainty, but it is the object towards which it ought to be directed.

All these lesions are not of equal importance, nor do they equally shew that the ox was rabid. Those of the mouth, and the pharynx, and the circulatory system, and the brain, most deserve attention; although we must not pass over in silence the extreme contraction of the bladder.

The disease, during life, was characterised byall the symptoms of rabies. The ox had been bitten by a rabid dog. In process of time it began to cease to ruminate and to eat; then it shewed *dread of water;* and afterwards became furious and ran at every one within its reach. A viscid saliva ran from its mouth; its eyes had a peculiarly dazzling appearance. It endeavoured to but at every thing within its reach; and the sight of a dog excited it to the highest degree of fury. All these symptoms were accompanied by a frightful bellowing, as if some ferocious animal were tearing him to pieces.

Although this account is exceedingly unsatisfactory in many particulars, we give it insertion, because it adds one to the very few detailed accounts of rabies in the ox. The existence of *hydrophobia* in this animal is singular. We have seen something like it more than once in the horse, and once only in the dog.—Edit.

An Account of the attempt to introduce the English Breeds of Hogs into France.

[Annales d'Agriculture Française, No. 29.]

The young pigs which I first attempted to rear were of the large Shropshire breed, and almost all white. They were large-

boned, short, and thickly formed, with long but thinly-set bristles, and almost blinded by their enormous lopping ears. I was then a young man; and because they pleased my eye, and were large in size, I was satisfied for some time. I began, however, to remark that they fattened very slowly, although they devoured an astonishing quantity of meat; that they seemed to derive no advantage from the herbs and other vegetables which they found in the fields; in a word, they were always hungry, and made no progress, at least, no constant one.

When they were killed, the flesh, and particularly the fat, was exceedingly coarse; and the noise of the knife in cutting them more resembled that of a saw than of a well-sharpened instrument. The sows, nevertheless, yielded many pigs at each farrow, which, from their size, when young, sold well to people who were tolerably well off, and knew nothing at all about the breeding of pigs.

I then changed my breed for the smallest of the Berkshire, and perceived almost immediately a very sensible improvement. They fattened quickly, and procured much of their nourishment in the fields; and when they were killed, the quality of their flesh was very superior to that of the former breed; but, as in size they approached nearly to the Shropshire breed, I imagined that they might possess the greater part of their defects, and I changed them for the Chinese, and in this change I fell too much into the extreme with regard to size. The Chinese breed was prolific, fattened speedily, and almost obtained its own subsistence, which was a point of infinite importance; but it was very faulty in its form: its limbs were strangely disproportioned; its back hollow, and its belly dragging on the ground; the skin was not sufficiently covered with hair or bristles; the flesh was too loose in fibre, and appeared to indicate that the animal had died of disease.

Still dissatisfied, I again changed for the breed which I now possess, and in which are united all the good qualities that perhaps it is possible to obtain, and qualities which, by diligent attention, I have been enabled to preserve, for there is no animal that degenerates so soon as the pig under injudicious management. The characteristics of my breed are very similar to those of Mr. Western's boar. It seems to be produced by a cross between the Berkshire, the wild breed, and the Chinese. It is very prolific, and fattens sooner than any that I have seen; and when it is in good condition, which it almost always is, its form is perfect. It is not, however, exempt from faults; the principal one is, that it is too small for some purposes, although I have killed them of 300lbs. weight. Another fault is, that when

they are fattened, they carry the fat too much upon the lean. I never give any meat to the young porkers designed to fatten. They run about in the yard of the farm, or rather, they graze where they please, and thus become perfectly fit for the table. When I want a larger animal for the house, I cross my breed with a good boar of the country, and the produce gives me that which I want—a great deal of lean meat, with sufficient size and aptitude to fatten.

Swine suffer more than any other animals from being bred too much *in and in*. The number of young ones is reduced at each farrow, until at length the sows are barren. It is necessary to cross them from time to time when they begin to degenerate. The Chinese blood will probably afford the best cross, and, with proper precaution, can never be injurious. The best formed of this cross should be selected, and when they again are crossed back with the original breed, they will seldom degenerate.

Young pigs, and particularly those that are disposed to fatten, are liable to some inflammatory diseases. Medicine will here be of little avail; but the prevention is very much in our power: the hogs should be suffered to range the pastures where they will find sufficient to nourish them, and keep them in health. It is an erroneous idea that they thrive better by being permitted to wallow in the mire: on the contrary, cleanliness is necessary to their doing well. When they roll in the kennels it is on account of the heat of their blood, which would be best cooled by an abundant provision of clear water, to which they could always have recourse.

The Clinical Division of the Veterinary School at Toulouse: an extract from one of the Lectures of Professor Dupruyten.

[Journal Pratique, June 1830].

Clinical instruction is essentially different from other branches of medical education. In the usual course of instruction, the Professor knows beforehand the subject on which he means to speak. He considers the different divisions of it, and gives it the extent and form which he pleases. He foresees and regulates every thing; and if he has but common talent, he can deliver a useful lecture, faithful to the plan which he has traced in the silence of his study.

In clinical instruction, the rise and the cessation of disease; the changes produced by the natural course of the disease; by the variations of the atmosphere; by the action of medicines; by food; and by the operation of a multitude of other accidental

causes, vary in an instant, and without limit, the subject of the lecture; and it is necessary, except he is content with common place remarks, without utility and without interest, that the clinical professor should be able in a moment to concentrate all his ideas, and all his acquirements and knowledge, on the subject which may chance to present itself before him.

In many schools, the visit which is paid in the morning to the animals contained in the infirmary is confounded with clinical instruction, and is the only clinical instruction which the pupil receives. These are, however, very different things. A few words spoken at hazard, and which are scarcely heard by half the pupils that are tumultuously surrounding the Professor, can never be regarded as a clinical lecture. It is in the theatre that the pupils must assemble for true clinical instruction. It is there that, silent and at their ease, they can comprehend and profit by the profound views of disease, and its course, and its accompaniments, and its consequences, and its varieties, which the experience of the day has brought before them. It is in this manner that M. Dupuy has conducted the clinical instruction of the school of Toulouse. The diseases, being thus studied with care among or immediately after examination of the animals themselves, become proofs or applications of the principles of physiology and pathology which other courses of lectures contain.

In the month of April there have been in the infirmary, and on each of them clinical lectures have been delivered, thirty-five horses, five mules, four oxen, two cows, and fourteen dogs*; besides several other animals which have been bought for experiment on the effect of medicines, and on certain points of physiology.

This is what a veterinary school ought to be.—Ed.

Expensive Shoeing.

Entry of James Hay, Ambassador, into Paris, under James I.

But when he made his public entry into Paris as ambassador, his cloak and hose were white beaver, richly embroidered with silver. His cloak had no other lining than embroidery; his doublet was cloth of gold, richly wrought; his white beaver hat brimful of embroidery. His horse was shod with silver shoes, slightly tacked on; so that every curvet threw one off to be scrambled for by the populace, and that was instantly replaced by a farrier, who attended on purpose.—*Pennant's Second Tour in Scotland, in Pinkerton's Travels*, vol. iii, p. 401.

* In the preceding month there were twenty-six horses, twenty-one oxen, four mules, twenty-two dogs, and six pigs.

Review.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

The Horse in all his varieties and Uses; his Breeding, Rearing, and Management, whether in labour or rest; with Rules occasionally interspersed for his Preservation from Disease. By John Lawrence. 12mo, p. 315. Longman and Co.

Although John Lawrence is no veterinary surgeon, and when he meddled with that which he did not understand now and then got himself into sad scrapes, yet almost the whole of his life, protracted beyond the usual period, has been spent among horses. He has always loved the horse. His attachment to that noble animal,[1] always pleasing, sometimes wore an air of Quixotism, (we forgive him that, and like him the better for it) and he gradually acquired a great deal of useful knowledge respecting the breeding, form, qualities, and treatment of the horse, &c. In his multifarious writings he has imparted much of that knowledge in a style sometimes quaint, often witty, and, when he was pleading the cause of this ill-used quadruped, singularly impressive. The volume before us seems designed to be his last legacy: it contains the cream and marrow of many a preceding volume; and we can confidently recommend it to the horseman, as an amusing as well as instructive work; while the veterinary surgeon will apply to it in the moment of relaxation, and, if it be not his own fault, derive from it considerable information.

No slight recommendation of the work, at least to us, who have but little time to spare, is a table of contents spreading over no less than fifteen pages, and enabling us, without trouble, to cull according to our palate or the whim of the moment, the anecdote or the lecture, the grave or the gay.

The author begins with a short but amusing history of the English horse, and all its varieties. He then gives a valuable, we should almost say a scientific, account of breeding. We particularly thank him for one remark. It unfolds the cause of the rapid deterioration of half and three-parts-bred horses. "The radical error in our general breeding system is, that the form and size of the stallion alone is particularly attended to, whilst the form and aptitude of the mare is little considered." Mr. Castley has placed this in a most convincing point of view in his excellent paper in our last number.

On hereditary diseases and qualities his remarks deserve notice.

"There are certain external and visible defects in the horse and mare, which may be, and often are, propagated. The chief of these are splents, spavins, round and gourdy legs subject to grease and running thrushes; crooked hams, thick, ill-shaped and ill-set heads, imperfect eyes. Good or evil qualities likewise are propagated; and it is not advisable to breed from a restiff horse or mare. Saltram, by Eclipse, a horse which ran at Newmarket when blind, communicated that defect to his progeny; among others, to Sir Charles Bunbury's Whisker, which, being blind himself, got scarcely any foals that retained their sight."

We go with him heart and hand in his reprobation of the unnecessary and horrible cruelty often used in breaking in. There is required only "a regular, steady, and experienced man, whose first and most important qualification is *unwearied patience;* the next, undaunted courage, joined to that indescribable quality which some men naturally possess, of being attractive to animals, and at once loved and feared by them."

We maintain, with him, that the education of the horse should be that of the child. Pleasure should be, as much as possible, associated with the early lessons; but firmness, or, if need be, coercion, must confirm the habit of obedience. The restive and vicious horse is, in ninety-nine cases out of a hundred, made so by ill usage, and not by nature; although we know that there are "a few, which the devil himself, in the guise of a horse-breaker, would be utterly unable to tame."

There is one passage in the treatment of the colt which deserves the attention of the veterinary surgeon. "Docking the sucking foal at a month old, an operation which may then be performed with a sharp knife, is attended with trifling pain, and no risk; whereas, both the pain and the danger of the operation on adults are considerable."

In the chapters which follow, on the defects of the feet and legs, there is much that is good, mingled with trifling errors. We were particularly pleased with his observations on those who have, to a great degree, needlessly frightened themselves and the public with the evils necessarily consequent on the common system of shoeing. After noticing the undoubted fact, that horses with almost every description of feet, will occasionally go sound, and that the fore *feet* will, nine times out of ten, in hard-worked horses, outlast the fore *legs*, he says "A naturally sound and tough hoof, rationally shod, is a good fundamental estate for life to a labouring horse; and he goes comfortably and well upon it, presenting a hoof more neat and handsome than in its natural state; devoid, indeed, of the possibility of external expansion, but enjoying the benefit of

the internal, or that action and re-action which result from the natural structure of the hoof. There is no doubt of a lateral and longitudinal external expansion and extension of the hoof of the colt, or of the unshod grazing horse; and the same fact applies to the feet of poor shoeless children, whose feet, however, never pine after the said expansion when, subsequently and fortunately, they become bounded and confined by a good and tight-fitting shoe. I conceive that neither Childers nor Eclipse were deprived of a single atom, either of their speed or powers of continuance, in consequence of their hoofs being bound by iron shoes." Not a few of our best theorists, excellent as are some of their speculations, may learn a lesson here.

In page 81 is a lesson for too many veterinary surgeons. "I have already vouched for the actual improvement and skill which has taken place in our farrying system generally; but there is yet too much of the old leaven remaining, not only in the provinces but in the metropolis. Haste and profit are the order of the day, as well in this concern as in all others. Hoofs are loaded with cheap and soft iron, the nails are brittle and good for nothing and the feet are compelled to fit the shoe, instead of the shoe being forged to fit the foot." "The seated shoe is too generally neglected, which preserves the crust: whereas, with the common shoe, the edge of which only bears on the crust, that important part of the hoof is torn and damaged; too much strain lies upon the nails and clinches, and the horse's tread is not so level and firm upon the ground."

After describing, and with much good sense, the œconomy of the stable, he takes his reader to a repository to purchase; to a repository, and not to a friend, "whom of all sellers he would least choose." He gives a long list of the defects of the horse, which the buyer should carry in his memory and in his mind's eye; and after several ludicrous illustrations of the art and mystery of horse-dealing, he gives us an anecdote of himself. "A short time since I had occasion to examine a horse, for a friend, at the stable of a considerable dealer; it was a very beautiful and well-shaped nag, but, as is commonly the hard fate of such, he appeared to have done too much work. The attendant, from a superabundant share of regard to my safety, must needs hold the horse's head whilst I examined his legs, still assuring me he was perfectly quiet; nevertheless, every time I attempted to feel below his knees, the horse started, and flew about the stall in a strange manner, to the no small risk of my toes and shins. Whilst I stood musing and wondering what beside the devil could possibly ail the animal, I discovered a short whip under the arm of the jockey, with which he had, no doubt, tickled the neck and chest of the horse, when-

ever I stooped down with the intent of handling his legs. I wished this adept good morning."

We have no time to follow our author, although the excursion would be pleasant enough, on "the road," in "the carriage," in "the field," and on "the course." In each he is at home, an old and skilful hand; and he describes the pleasures of each, and points out the fooleries and dangers with so much propriety and good humour, that we must again recommend our readers, whose time is their own, to accompany him: they will find him a very agreeable and instructive fellow-traveller; and we do trust that the worthy octogenarian may have life, and strength, and spirits enough again to face the public, and especially that he may ride his favourite hobby to the desired end of this journey—the vindication of their rights whom nature has made our slaves, but has likewise commanded us to protect.

Miscellanea.

The Effect of the Hunter's Tally-ho.

On the day of celebrating the rending of the veil of the temple, when our Saviour gave up the ghost, the people have large hammers, with which they beat the benches, and have sheets of tin, &c. which they shake to imitate the noise of thunder as near as possible. An English colonel, in the republican service, on this occasion thought he could add to the scene by imitating the English fox-hunter's tally-ho, which he did with so much strength and clearness of lungs, as quite to exceed any noise of other persons, and gained by it so much of the curate's good will, who imagined his religion must be in proportion to his vehemence of utterance, that, after the service, he came to him, and squeezing his hand, thanked him most cordially for his kind addition to the devotions of the night.—*Cochrane's Columbia*, vol. ii, p. 336.

Turkish Humanity to Animals.

Much is said of the humanity which Mussulmen display towards animals. A singular proof of it occurred during this siege (of Athens). Finding them suffering from thirst, the besieged lowered a number of asses, &c. into the hands of the enemy, choosing rather that they should live in the possession of the infidel than perish miserably with themselves. It is even more singular, that two of these animals were actually preserved alive

to the end of the siege: their owners had probably some private supply of water, which they preferred to share with beasts rather than with their dying brethren. When the Greeks first obtained the possession of the town, they commenced a terrible persecution of the storks, driving them from the chimney tops and old ruined columns, where they had enjoyed, under Mahometan protection, so many centuries of hereditary security. The sight of this barbarity is believed to have enraged the Turks even more than the destruction of their houses and the violation of their mosques.—*Waddington's Visit to Greece*, p. 58.

The Wild Ass.

The sun was just rising over the summits of the eastern mountains, when my greyhound, Cooley, suddenly darted off in pursuit of an animal which my Persians said, from the glimpse they had of it, was an antelope. I instantly put spurs to my horse, and, followed by Sadak Bey and the mehmander, followed the chase. After an unrelaxed gallop of full three miles, we came up with the dog, who was then within a short stretch of the creature he pursued, and to my surprise, and at first vexation, I saw it was an ass. But on a moment's reflection, judging from its fleetness it was a wild one, a species little known in Europe, but which the Persians prize above all other animals, as an object of chase, I determined to approach as near to it as the very swift Arab I was on would carry me. I happened to be considerably before my companions, when, at a certain distance, the animal made a pause, and allowed me to approach within pistol shot of him. He then darted off again with the quickness of lightning, capering, kicking, and sporting in his flight as if he was not blown in the least, and the chase was his pastime.

He appeared to me to be about ten or twelve hands high; the skin smooth like a deer, and of a reddish colour; the belly and hinder parts partaking of a silvery grey; his neck was finer than that of a common ass, being longer, and bending like a stag's; his legs beautifully slender; the head and ears seemed large in proportion to the gracefulness of his general form, and by them I first recognised that the object of my chase was of the ass tribe; the mane was short and black, as was also a tuft which terminated his tail: no line whatever ran along his back or crossed his shoulders, as is seen in the tame species with us. "Who hath loosed the bonds of the wild ass, whose house I have made the wilderness, and the barren land his dwelling: he scorned the multitude of

the city, neither regardeth he the crying of the driver; the range of the mountain is his pasture."—Job.

Porter's Travels in Georgia, vol. ii, p. 460.

The Magpie.

He had been informed that a litter of foxes, nine in number, had been got possession of by some boys; but that a man had taken them away from them and replaced them. The circumstance being mentioned to Mr. Hodgson, he determined upon watching the result, and laid himself under a hedge in view of the nine cubs. In about half an hour the vixen came to them, but was immediately attacked by two magpies, who, no doubt, had marked them for their prey. In about half an hour, the vixen having beaten off her assailants, returned to her cubs, and carried them away one by one to a plantation at a small distance from the spot. In the act of the parent fox there is nothing remarkable; but I was not prepared to hear such an account of a magpie. That he is a noisy, restless, and crafty bird, and one of the greatest thieves of the feathered tribe, I was well aware; but I did not give him credit for the audacity of attacking so large, and in many cases so savage, an animal as a fox.—*Arthur Warwick's Spare Minutes.*

Shetland Ponies.

They have a sort of little horses called Shelties, than which no other are to be had, if not brought hither from other places. They are less in size than the Orkney horses, for some will be but nine, others ten handbreadths high; and they will be thought big horses if eleven; and, although so small, yet they are full of vigour and life. Some not so high as others often prove the strongest. There are some which an able man could lift up in his arms; yet they will carry him and a woman behind him eight miles forward and as many back. Summer or winter they never come into a house, but run upon the mountains, in some places like flocks; and if at any time in winter they are straightened for food, they will come from the hills when the ebb is in the sea, and eat the sea weed (as likewise do the sheep). Winter storms and scarcity of food brings them so low that they do not recover their strength till about St. John's mass-day, the 24th of June, when they are at their best. They will live to a considerable age, as twenty-six, twenty-eight, or thirty years. They will be good for riding at twenty-four; especially they will be vigorous and

live longer if they are not put to work until they are four years old. Those of a black colour are judged the most durable. The pied often prove not so good. They have been more numerous than they are now. The best of them are to be had in Sanston and Eston; also they are good in Waes and Yell. Those of the least size are in the northern isles of Yell and Unst. The coldness of the air, and the barrenness of the mountains on which they feed, and their hard usage, may keep them little; for if bigger horses are brought into the country, their kind will in a little time degenerate: and, indeed, in the present case, we see the wisdom of Providence; for their way being deep and mossy in many places, these lighter horses come through where the heavier and larger would sink down. They leap ditches very nimbly; yea up and down rugged mossy braes or hillocks with heavy riders on them. I have even seen them climb braes on their knees, when otherwise they could not overcome the height; so that large horses would be but little if at all serviceable there.—*Brand's Description of Orkney, Zetland, and Caithness, in Pinkerton's Travels*, vol. iii, p. 771.

Cochin Chinese Delicacies.

Fat pork and rotten eggs they seem to consider as delectable morsels, and are not sparing in their powers of consumption. It will appear scarcely credible to an European, that both here, and in many parts of China, fresh eggs are looked on with indifference, while those which have become putrid are much esteemed, and the latter cost in the market thirty per cent. more than the former. Eggs that contain young ones are still more highly esteemed; and amongst the numerous dishes sent to us by the king, were two plates full of hatched eggs, containing young that were already fledged. We were assured that this was considered a mark of the greatest distinction. Doubting still the fact, we sent them to the soldiers appointed as our guard, who gobbled them up in haste, with the most luxurious voracity.—*Finlayson's Mission to Siam and Cochin China.*

TO CORRESPONDENTS.

"C——." We cannot unprovokedly and uselessly wound the feelings of one to whom the veterinary profession is not a little indebted.

Mr. ——. The facts have been fully and fairly stated—our opinion has been freely expressed—any thing beyond this would be useless and malicious annoyance.

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ANATOMY OF THE HORSE.

[Continued from page 426.]

MUSCLES OF THE EXTREMITIES.

Of the three hundred and odd muscles reckoned in the whole body, upwards of one hundred are to be found in the four extremities.

MUSCLES OF THE FORE EXTREMITIES.

In number, forty-eight; and they admit of being classed into two general divisions—those of the *shoulder*, and those belonging to the *arm* and *leg*. Both divisions are, more or less, invested by the scapular and humeral portions of muscles coming from the trunk; most of which give origin to aponeurotic expansions, that descend and subsequently form the humeral and brachial *faschiæ*. Upon the outer and posterior sides we find the panniculus; upon the fore parts, the levator humeri, pectoralis parvus et magnus; upon the hind and inner parts, the pectoralis transversus; upon the internal side, the latissimus dorsi. Upon the shoulder the faschia is thin, weak, and transparent; and has (besides its connexions with the various muscles mentioned) attachments to the superior costa and spine of the scapula, to the tubercles and projections of the humerus, and to the olecranon.

MUSCLES OF THE SHOULDER

Are twelve in number.

1.—EXTERNAL SCAPULAR REGION

Comprehends two muscles occupying the *dorsum scapulæ*. These are enveloped in distinct portions of dense faschia, from which septa are sent down between them, and to the inner surfaces of which, in many places, the fleshy fibres are inseparably adherent.

ANTEA-SPINATUS.—*(Super-acromio-trochiterius.)*

Situation.—Occupying the *fossa antea spinata scapulæ.*

Figure.—Approaching that of an extended triangle; having its base thick and turned downwards, its apex thin and rounded off.

Attachment.—Superiorly, to the surface of the fossa antea spinata; also to the spine and anterior costa of the scapula: inferiorly, to the summits of the greater and lesser tubercles of the humerus, and to the capsular ligament of the shoulder joint.

Relations.—Externally, with the panniculus and skin; internally, with the bone: anteriorly and superiorly, with the levator humeri and pectoralis parvus; posteriorly and inferiorly, with the next muscle: below, with the shoulder joint.

Direction.—Oblique; from above downward, and from behind forward.

Structure.—Surface aponeurotic, with a tendinous intersection through its middle.

Attachment.—Tendinous and fleshy: inferiorly, the fleshy part presents two terminations, united by an intervening expansion of tendon, which fills up the interspace between them. At the point of the shoulder is sent off a tendinous expansion, between which and the tendon of the biceps is interposed a bursa mucosa.

Action.—To extend the humerus upon the scapula; at least, to approach that bone to the straight line.

POSTEA-SPINATUS.—*(Sub-acromio-trochiterius.)*

Situation.—Occupying the fossa postea spinata.

Figure.—Triangular; flattened: broader, but not so thick in substance as the preceding muscle.

Attachment.—Superiorly, to the surface of the fossa postea spinata, and to the spine of the bone; inferiorly, to the outer side of the greater tubercle of the humerus, to a bony ridge extending down from it, and to the capsular ligament of the shoulder joint.

Relations.—On the outer side, with the panniculus and skin, and also (superiorly) with the trapezius; anteriorly, with the foregoing muscle; posteriorly, with the teres minor and triceps; inferiorly, with the shoulder joint.

Structure.—Superior attachments, aponeurotic as well as fleshy. Its middle presents several broad tendinous intersections, from the principal of which originates a flattened tendon, fixing the muscle to the tubercle. Below the tendon, is the tendinous and fleshy portion fixed to the ridge; and still lower is a distinct and separate fasciculus, proceeding to a small tubercle upon the

same ridge, which both Bourgelat and Girard regard as another muscle.

Action.—To assist in the flexion of the humerus; and, at the same time, to roll it outwards.

2.—INTERNAL SCAPULAR REGION

Contains but one muscle.

SUB-SCAPULARIS.—(*Sub-scapulo-trochineus.*)

Situation.—Occupying the *venter scapulæ.*

Form.—Triangular; broad, flattened, thin in substance.

Attachment.—Superiorly, to the surface of the venter scapulæ, and to the anterior and posterior costæ; inferiorly, to the lesser tubercle of the humerus, and to the capsular ligament of the shoulder joint.

Relations.—Externally, with the bone; internally, with the serratus; anteriorly, with the pectoralis parvus; posteriorly, with the teres major.

Direction.—Fan-like; the fibres converging from above to one and the same point below.

Structure.—Superior attachments partly tendinous, but mostly fleshy; surface, partly aponeurotic; middle intersected by tendinous septa; its fleshy fibres, inferiorly, everywhere invest the capsular ligament, there being interposed between these parts a bursa mucosa.

Action.—To assist in the extension of the shoulder joint, and to turn the os humeri inwards.

3.—POSTERIOR SCAPULAR REGION.

TERES MAJOR.—(*Subscapulo-humeralis.*)

Situation.—Behind and below the subscapularis.

Form.—Elongated; flattened: about two inches in breadth.

Attachment.—Superiorly, to the posterior angle of the scapula, and also to the posterior costa: inferiorly, to the inner and upper part of the body of the humerus.

Relations.—Externally and posteriorly, with the triceps; anteriorly, with the subscapularis and posterior costa of the scapula; internally, with the pectoralis magnus and latissimus dorsi.

Structure.—Scapular attachment, fleshy and tendinous; belly, fleshy; surfaces, in part aponeurotic; inferior termination, an aponeurotic tendon.

Action.—To assist in flexing the shoulder-joint; and to incline the humerus inwards.

TERES MINOR.—(*Superscapulo-trochiterius.*)

Situation.—Upon the outer and posterior part of the shoulder, below and behind the postea-spinatus.

Form.—Elongated; trilateral; flattened.

Attachment.—Superiorly, to the posterior costa of the scapula: inferiorly, to the ridge descending from the tubercle of the humerus; and to the faschia a little above and to the outer side of the bend of the arm.

Relations.—Anteriorly and superiorly, with the postea-spinatus; posteriorly and inferiorly, with the triceps: above with the scapula; below, with the humerus: externally, with the panniculus.

Structure.—Mostly covered by a dense aponeurosis. Below, it is entirely aponeurotic, and spreads over the infero-external part of the shoulder.

Action.—It will co-operate with the postea-spinatus.

4.—ANTERIOR HUMERAL REGION.

CORACO-HUMERALIS.

Situation.—Infero-internal part of the shoulder.

Form.— Pyramidal: base turned downwards; flattened from without inwards.

Attachment.—Superiorly, to the coracoid process of the scapula: inferiorly, to the middle third of the antero-internal part of the body of the humerus.

Relations.—Externally, with the pectoralis transversus and the ribs, also with the humeral blood-vessels and nerves; internally, with the body of the humerus; antero-inferiorly, with the flexor brachii; postero-superiorly, with the teres major and latissimus dorsi; superiorly, its tendon runs between the subscapularis and antea-spinatus.

Structure.—A flattened tendon, about three inches in length, forms its superior attachment; from which extends a fleshy belly, partly aponeurotic upon its surfaces, and intersected in places through its substance by tendinous divisions. Its lower attachment is principally (but not entirely) fleshy.

Action.—To extend the shoulder joint; and to incline the humerus inwards.

FLEXOR BRACHII.—(*Coraco-radialis.*)

Situation.—Antero-inferior part of the shoulder.

Form.—Cylindroid: flattened, superiorly, from before backwards; inferiorly, from side to side.

Attachment.—Superiorly, to the coracoid process of the scapula; inferiorly, to the inner parts of the head and neck of the radius, to the capsular ligament of the elbow joint, and to the brachial faschia.

Relations.—Anteriorly, with the faschia and skin; posteriorly, with the elbow joint and the humerus; externally, with the pectoralis transversus; internally, with the coraco-humeralis. Its tendon, superiorly, issues from the space between the terminating portions of the antea-spinatus; and the superficial brachial vein ascends to the outer side of it.

Structure.—The muscle is fixed to the scapula by a broad, short, thick tendon, which runs within the groove between the tubercles of the humerus; its posterior surface (which much resembles cartilage in its texture) being hollowed and adapted to a cartilaginous eminence in the middle of that groove. At this part the tendon pierces the capsular ligament of the shoulder joint, from the internal cavity of which it is separated only by a reflection of synovial membrane. The anterior surface of the tendon exhibits a few pale fleshy fibres running upon it. The fleshy belly of the muscle is invested by an aponeurotic sheath, and appears as if it were made up of several very small cylindrical muscles, similarly invested, and afterwards joined together into one body. Its inferior attachments are wholly tendinous in one place, aponeurotic in another.

Action.—To bend the arm, by carrying it forwards and upwards.

HUMERALIS EXTERNUS.—(*Humero-radialis obliquus.*)

Situation.—Deep-seated upon the infero-external side of the shoulder.

Form.—Oblong; twisted.

Attachment.—Superiorly, to the entire postero-external parts of the neck and body of the humerus: inferiorly, to the supero-anterior part of the body of the radius, immediately below the attachment of the flexor brachii.

Relations.—Externally, with the middle head of the triceps; internally and posteriorly, with the humerus; anteriorly, with the flexor brachii.

Direction.—Curvilinear and oblique.

Structure.—Fleshy; excepting a single tendinous intersection through its inferior part, which proceeds to its termination.

Action.—To assist in the flexion of the arm.

[To be continued.]

Communications and Cases.

Ars veterinaria post medicinam secunda est.—VEGETIUS.

ON BREEDING.

By Mr. KARKEEK, *of Truro.*

[Continued from p. 392.]

" Interea, superat gregibus dum læta juventus,
Salve mares; mitte in Venerem pecuaria primus;
Atque aliam ex aliâ generando suffice prolem,"

* * * *
* * * *

" Semper erunt, quarum mutari corpora malis
Semper enim refice: ac, ne pòst amissa requiras,
Anteveni, et sobolem armento sortire quotannis.
Nec non et pecori est idem delectus equino."

VIRG. GEORG. III.

RESPECTABLE and useful as every branch of the agricultural art is, no one is of greater importance to the public, or more likely to prove advantageous to those who may be so fortunate as to succeed in it, than that of breeding horses. Much has been effected in bringing the different breeds to perfection by our ancestors, yet much still remains to be accomplished; it being an acknowledged fact, that this art, instead of having been improved by the present generation, has been considerably on the decline. We do not allude to race-horses, although there are some who would have us believe that even they are not equal to those of former times; but we chiefly allude to those more valuable; animals about half or two-thirds bred, and that are chiefly employed as hunters and roadsters—animals that are at once our companions and our slaves, that carry us for our amusement and our exercise, and are the source of incalculable use and benefit. Mr. Castley's "observations upon the present state of horses in what are called the breeding districts" so ably explain this as to require no further comments from us*.

Few subjects have afforded more matter for controversy than that of breeding; numerous and contradictory are the opinions; so much have the different experiments which have been undertaken been at variance with one another. Theory after theory has been formed, each strongly supported by its admirers, and

* See VETERINARIAN, p. 371.

each new one considering its predecessor as altogether visionary and of no importance; and so warmly have the different systems been advocated in the different agricultural publications, that the "cacoethes scribendi" has in a few instances, at some of the annual agricultural meetings, occasioned the cacoethes pugnandi.

> "So high at last the contest rose,
> From words the creatures came to blows."

How far the latter practice of deciding the question can be considered eligible (for certainly they are knock down arguments) is not for us to decide. This we know, that we are likely to continue in this state of dubiousness unless a national society* is established for the purpose of elucidating the truth; as the long course of experiments necessary to attain this end would incur more time and expense than any single individual would be able, even if willing, to undertake.

To enter fully into the nature and explanation of the best and most approved method of effecting improvements in our breed of horses, as far as the present state of knowledge extant will enable us, is our purpose: for notwithstanding that reiterated discussions have almost completely exhausted the subject, yet with little danger of error we may venture to affirm, that there is still an ample and open field for future discovery and improvement. Wedded to no particular system, we shall be guided by no other monitor than *common sense*, which seldom fails to assert its rights over those of *fashion and prejudice*.

We have already shewn that horses are beautifully adapted to the soil which they inhabit—the compliancy of the constitutions of herbiverous animals being so great that they readily accommodate themselves to great alterations; feeling the influence of climate more extensively than the carniverous species, because there is added to it the influence of food. Thus we find that very slight alterations of food in our domestic animals are followed by either *degeneracy* or *improvement*.

A country may date the improvement of her domestic animals from the time that civilization made its first advances by converting marshes into pasturage, and forests into fields; and the commencement of their degeneracy, from the period when its state first exhibited a tendency towards falling from the virtues of their ancestors. Here a wide field presents itself for tracing the melioration or degeneracy of domestic animals in proportion to the rise or fall of civilization.

Among the different arts, none have conferred so much good on mankind as agriculture. Before the means were known of re-

* Recommended by Mr. Blaine, in his Canine Pathology.

storing fertility to an exhausted soil, the people were obliged to be frequently changing their situation, in order to obtain a sufficiency for themselves and their numerous flocks and herds. But as it became known, they gradually forsook their acorns and the wild roots of the field, and applied themselves assiduously to the cultivation of the earth ; then, and not till then, did flourishing cities rise; and we find that those who were the most remarkable for their skill in husbandry were the most powerful among the nations of the world.

The first conquests were made by people in the pastoral state: roaming shepherds, having the sword always in their hands, set out on expeditions which terminated in conquests over their more weak and indolent neighbours. The first armies were composed of infantry ; but as man extended his dominion over the inferior animals, the horse was soon employed with advantage in battle, and he soon became what he now is—*the most noble associate of man.* As the arts became invented, and the sciences made their appearance, the domestic animals soon became considerably improved ; for, like mankind, they appear to have attained to the highest perfection in those countries where the inhabitants are polished but not corrupt, and pressing forward in the career of military fame, policy, and arts. Examples of the degeneracy of domestic animals in proportion to the neglect of agriculture and the arts are numerous in the fallen empires of the world. What a difference do we perceive between the horses of modern Egypt and Egypt the mother of science, and abounding in wealth and fertility. One thousand six hundred and fifty years before the christian æra, she possessed an army of 600,000 infantry, 24,000 cavalry, and 27,000 armed chariots ; at present she is indebted to her neighbours for both her men and horses.

Contrast the proud and stately Roman charger, so inimitably described by Virgil, with the present miserable Italian breed.

> " Illi ardua cervix,
> Argutumque caput, brevis alvus, abesaque terga :
> Luxuriat que toris animosum pectus : (* * * *) tum, siqua sonum procul arma dedere,
> Stare loco nescit, micat auribus, et tremit artus ;
> Collectum que premens voluit sub naribus ignem.
> Densa juba, et dextro jactata recumbit in armo."

Few countries held, at one time, their husbandmen in such high esteem as the Romans. *Lucius Cincinnatus* was found at the plough when he was called to the dictatorship ; and *Fabricius, Curius,* and *Camillus,* were no less skilled in the science of husbandry than they were in the art of war. No nation ever rose to so high a pitch of grandeur as the Romans. What were the

causes of so surprising and rapid a decline? A superficial enquirer, who attends only to the event, will find them in the bravery of a barbarous multitude, from the banks of the Danube and the Elbe; but he who carries his researches farther, will find that this revolution was the necessary consequence of a neglect of agriculture and the sciences. The Romans attained to extensive empire by bravery and temperance, and lost it when effeminacy and luxury got possession of their minds: by the relaxation of their national spirit they became an easy conquest to a hardy race of northern barbarians. The Italian horses, even a few centuries ago, were held in high esteem, especially those of the Neapolitans. Virgil took them for the model of his war-horse, as he took Naples for the model of the Elysian fields, it being the finest and the most fertile country in all Italy; but, like every thing else in those mismanaged countries, horses have sadly degenerated. The same cause led to the degeneracy of the domestic animals of Greece as that of Rome. Most nations resemble one another on the eve of their downfall. In vain does the traveller who visits the shores of modern Greece look for the proud coursers that once drew the Spartan youths at the Olympic games. The poet could not now say, as was formerly said of the Grecian horses, that

> "The winds themselves with their swiftness vie,
> In vain their airy pinions fly;
> So far in matchless speed thy coursers pass
> The æthereal authors of their race."

But we need not look so far back for examples; even two centuries ago will suffice, as seen in the state of Spain in the sixteenth century, during the reigns of Ferdinand and Isabella. At that period her soil was rich, her population numerous and industrious; and her *Andalusian chargers*, who proudly carried her chivalrous sons to the wars, were the theme and praise of every poet. At present her arts are destroyed, her population reduced to less than half of their former numbers; and the few horses she retains are miserable specimens of their species. The cause here, too, was principally owing to the neglect of agriculture. The Spaniards finding that they could make large fortunes in America and in the Indies, in a short time regarded the labours of the field as contemptible: they shook off what they called a tedious and toilsome labour, and emigrated to America in quest of gold. Multiplied emigrations soon diminished the population. Still one resource remained: there were 800,000 Saracens, descendants of the ancient Moors, who were mostly employed in agriculture, and were prevented by their laws from emigrating; but Philip III, at the commencement of his reign, drove them out of the king-

dom, and thus agriculture became almost totally neglected. Lastly, priestcraft and the Inquisition finished what remained, and became the last gulph in which the Spanish race was swallowed up; for the government, by increasing the number of cloisters, gave the few husbandmen that remained a distaste of agriculture, and produced an indolence destructive to morals and the prosperity of the inhabitants; when they should have given a check to this prejudice, and by attaching honours to the farmer's confession, have tried to rouse the vanity of the nation.

To bring this subject home to our own country, we find that the art of husbandry was at a low ebb until the fourteenth century, at which time it began to be practised in the midland and south-western parts of England. The breed of our domestic animals soon shewed the good effect of the increased culture; yet it seems not to have been cultivated as a science until the latter part of the sixteenth century, since which time many valuable improvements have been made in the condition of cattle, and horses in particular. Therefore, in attempting to meliorate the breed of horses of any country, as improved flowers and fruits are the necessary produce of improved culture, it must be the place of him

"Whose care
'Tends the courser's noble breed,
Pleas'd to nurse the pregnant mare,
Pleas'd to train the youthful steed,"

first to improve the nature of the soil. This forms one of the *first principles* of improvement. And, as much of the success of the planter is found to depend on the skill or good fortune in adapting his fruits to the soil, so the selection of that breed which is best adapted to climate and soil forms the second *disideratum* of breeders.

"Nec vero terræ ferre omnes omnia possunt."

The next *general principle* to be attended to, is to obtain *beauty of form*. This principle, however, does not apply to the common acceptation of the adjective *beautiful;* nor does it agree with the opinion formed by the elegant and ingenious author of the "Essay upon the Sublime and Beautiful," who appears to have yielded too much to the love of system, when he refuses to allow proportion to have any share in the beauty of animals. His signification is applied very correctly to the Bard of Avon's description of a beautiful female—

"O, she doth teach the torches to burn bright!
Her beauty hangs upon the cheek of night,
Like a rich jewel in an Ethiop's ear:
Beauty too rich for use, for earth too dear!"

but when applied to horses, far more is demanded by horsemen, who consider that the more beautiful their forms the better are they adapted to answer the end for which they were designed. There are many forms that are not generally considered beautiful. The celebrated horse Eclipse, for instance, was never thought handsome by those who were not judges; but the reason of this was, that they never considered the beauty of this noble animal in the light of his fitness for his destination, since the mechanism of his frame, so far as it respected his powers of swiftness, might be considered almost as a compendium of perfection.

To judge of proportion we must have a knowledge of the end for which any work is designed, for according to the end the proportion varies. Thus, there is one proportion of a *racer*, another of a *hunter*, another of a *hackney*, another of a *coach-horse*, and another of a *cart-horse*. Each breed possesses its own peculiar style of *beauty**, agreeably to the purposes to which

* "For *racing*, we require that the greatest possible quantity of bone, muscle, and sinew should be got into the smallest bulk. Every part in such a horse should be, as it were, condensed, and each organ bear evident marks of capability for quick and continued progression. In addition to great flexibility, and some length, the limbs must be strongly united, and systematically placed: the chest must be deep and capacious, and the hinder extremities particularly furnished with large muscles, operating on extended open angles. The *hunter* must have more bulk, and greater extent of form, to enable him to carry more weight, and to support it a longer time. In other respects, as almost the same qualities are requisite, so nearly a similar form, but more extended, is necessary. For if it requires that the racer should be very powerfully formed behind, to propel him forward in the gallop, so it is equally necessary that the hunter should be well formed in his loins, and well *let down* in his thighs; that he may have strength to cover his leaps, particularly when they are extensive and numerous.

But in the *hackney* we look with as much anxiety to his fore parts as we do to the hinder parts of the racer and hunter; and as in them the fore parts are rather subordinate to the hinder, so in the hackney, on the contrary, the hind parts may be regarded as of less consequence than the fore; for though speed is desirable, yet it is subordinate to safety. The head must be small, well placed, and well carried on a neck of due length: the withers high, the shoulders muscular but not heavy; and, above all, they should be deep and obliquely placed. The fore legs must be perfect throughout, and stand straight and well from under the horse; and, what in the hunter and racer is of less consequence, is here indispensable, that the elbows should be turned well from the body. The feet, also, it is requisite should be perfect, and the whole limbs free from stiffness. The height is not so essential in the hackney as in the two former; indeed, the best size of the hackney is from 14-3 to 15-1: he should also be square set, without being in the least clumsy; and with this form the more breeding he shews, short of full blood, the better.

Coach-horses should be nothing more than very large hackneys; and whoever is at the pains to consider the matter attentively, will agree with me, though it is not usual to regard the matter exactly as I have stated it.

their powers are intended to be applied; for the slender racer would make but a poor figure in heavy draught; nor is the carriage horse better calculated to take the place of the hackney. Therefore what is considered handsome and beautiful in regard to horse-flesh, must be understood to imply the true and exact proportion of parts. The terms "beauty" and "proportion" are, consequently, perfectly synonymous.

The French veterinarians have taken great trouble to ascertain the proportions which the different parts of the body should bear to each other, in order to discover the relative magnitude of the head, neck, trunk, and limbs which ought to be found in the best constructed frame. If only one particular figure, and one set of proportions, were consistent with strength and activity, it would be of some benefit to make ourselves acquainted with those geometrical proportions; but in order to show that the perfections of horses cannot be determined by any general rules, we have extracted a part of Mons. St. Bel's observations on the proportions of Eclipse, compared with the table before mentioned.

"1. In that table the horse should measure three heads in height, counting from the foretop to the ground: Eclipse measured three heads and a half.

"2. The neck should measure but one head in length: that of Eclipse measured a head and a half.

"3. The height of the body should be equal to its length: the height of Eclipse exceeded his length by about one tenth.

"4. A perpendicular line falling from the stifle should touch the toe: this line in Eclipse touched the ground at the distance of half a head before the toe.

"5. The distance from the elbow to the bend of the knee should

Horses for two-wheeled carriages should be the same, but something smaller. The former are perfect between 15-3 and 16-1; the latter between 15-1 and 15-2. No horse is so adapted for quick draught as a powerful hackney: why, otherwise, do we take such pains to lunge and rein up our carriage horses, but to lighten them before? When we again go back to old times, and read advertisements holding out *safe* and *expeditious* travelling from London to York in *six days*, then we may safely resume the old Flanders breed.

In *cart-horses*, or those for heavy draught, a similar improvement has been attempted by lightening them materially; but though, when very bulky, they are certainly objectionable, yet I think, for this kind of horse, some bulk and weight are essential; for it is certain that these animals draw by their weight as well as by their strength. The cart-horse should, therefore, be collectively, though in different proportions according to his various uses, bulky, square, and muscular; and it is peculiarly desirable that his fore parts should be equal in weight and substance to his hinder."

Blaine's Outlines of the Veterinary Art.

be the same as from the bend of the knee to the ground: these two distances were unequal in Eclipse, the former being two parts of a head longer than the latter.

"This summary comparison shews that the beauty of a horse cannot be absolutely determined by general rules, but must ever be in relation to a particular species."

Nature is herself the source of all that is ingenious, amiable, and beautiful: she laughs at systems manufactured by man, who views objects only through his own medium; and a little attention to her laws will convince us that, even in the same breed, individual varieties are endless in number, and great in degree, without any diminution of activity or strength.

[To be continued.]

ON PROFESSIONAL CONDUCT.

By Mr. JAMES KERR, *V. S., Southampton.*

To the Editors of "The Veterinarian."

Southampton, August 13, 1830.

Gentlemen,

I AM induced, from an ardent love for my profession and anxiety for its welfare, to offer a few remarks on a subject which I humbly conceive to be of the highest importance to the pupil, but more particularly to the recently graduated veterinary surgeon. I allude to the pupil at the time of his entering the College, his obtaining his diploma, his commencing business, and the conduct which I conceive ought to be observed from him towards his employers, grooms, farriers, horse-dealers, &c. I shall take a youth whose father is either a professional man or in a respectable mercantile employ, holding that place in the scale of society that entitles him to the rank of a gentleman: with a consciousness of this let him enter the College; but this is not done before he has had to encounter the rebuke of those friends who, from the infancy of the profession, have not sufficient knowledge of its importance, and who are, alas! inclined to look upon its members as little better than common farriers and blacksmiths. The anxious youth eagerly seeks for an example of respectability in the profession, and proud am I to say he has many before him. By this kind of argument he obtains the consent of his friends, and enters at the College; and here his love for the study he has chosen is strengthened by

observing the ease and cleanliness with which our much-respected Professors are enabled to go through their duty, and the few disagreeables they have to encounter. After an attentive pupilage of *two or three years*, he obtains his diploma without much difficulty, and, of course, obtains a situation as an assistant. At last, he determines on commencing business. He is a stranger in the place where he sets himself down; friends he has none, enemies many: the surrounding veterinary surgeons, farriers, and their friends would at once like to see him hooted, and kicked out of the town. He did not expect this; but be not astonished: I would say to him, such, alas, is human nature! In the evening, at the different tap-rooms, he is the subject of conversation among a *most sapient set;* and, no matter what his merits are, the unanimous verdict is, that, being a "*wetinary*," he knows nothing. He takes his "place" on the "course," but with a "false start;" and nothing but previous *good training, hard and substantial food*, and a firm determination to do the "*thing that's right*," will bring him off victoriously. He is employed at first by a gentleman who takes an interest in his stable, who, after he has obtained much pleasure through the most violent exertion of his noble hunter, will visit the stable, and do every thing that can at all contribute to the comfort of his partner in the chase; and who has more feeling than to allow the young Vet. to be sitting behind his counter, unconsciously picking the ends of his fingers to the quick, while the farrier, by the groom's recommendation, is busily employed in almost every stable. I will suppose the young veterinarian thus employed by some gentleman of good sense and good feeling; and I would beg leave to offer the following friendly advice. Let your conduct to your employers show that you are sensible of the compliment they are paying you. Say little, but what you do say, say with *firmness;* nothing tends to remove confidence so soon as wavering opinions. Endeavour as early as possible, by courteous yet not too familiar conduct to the groom, to win him; for at first, depend upon it, he is your enemy; he has been in the habit, perhaps daily, of shaking hands with the farrier, and drinking his ale: it is not unnatural that this intimacy still exists. When you *first visit the stable, strive with all your might to leave a good impression behind.* This is a material thing. I have often thought it a melancholy fact, that a man's reputation seems to hang upon a thread: if by any chance something untoward happens in the commencement of his practice, it may take years before it is removed. For example, our respected Professor mentions a case in his Lectures, where an excellent practitioner had to bleed a horse. He had mislaid his blood-stick,

and took the first thing that offered. The horse was bled well, but unfortunately "something untoward" occurred. The horse had a bad neck; and if I recollect right, died! An action was brought, which threatened his ruin; and he was obliged to quit the neighbourhood. Here I must urge the necessity of the practitioner, as early as possible, obtaining *testimonials* from his employers. A man only injures himself, in the eyes of sensible people, by speaking of his own abilities: get others—*disinterested* persons, to do that for you, and you will effect much.

But to return to the gentleman who has sent for you. You will, in all probability, learn before you leave your dispensary the nature of the case; and fifty to one if it is not one requiring bleeding and a fever ball; or a case of lameness requiring an abstraction of blood from the foot, and a poultice: if so, take your apron and sleeves, your fleams, blood-stick, pin-cushion, tow, a small pair of scissors, and a ball. While the proprietor is present proceed at once to shew you are a *practical* man: give the ball yourself, put on your apron and sleeves, and proceed to bleed; and while on this subject, I beg to offer a hint: I usually commence by raising the vein with the left hand, and from the exact spot I propose the fleam to enter I with a small pair of scissors remove the hair. The advantages are many in my opinion: you will with much more certainty bleed, perhaps never miss; a less blow is required; the incision will be more easily pinned up; the chance of any hair getting into the wound is removed, and the blood will flow with greater facility. If it is a case of lameness, bleed the horse over the lateral cartilages, making an horizontal not a perpendicular incision on the superior and anterior part of the cartilage; and by immediately placing the foot in a bucket of warm water, you will easily get one, two, or three quarts of blood. If a poultice is required, make it yourself, and apply it. I would advise that a good sized packing needle be always one of the instruments in your pocket case; and with some good stout string, and a piece of an old sack, you will presently make one. A strict attention to these trifles is of the highest importance towards the welfare of the junior Vet.; and though these trifles are frequently performed well by the most illiterate men, still your employers will not give you credit for your theoretical knowledge if you do not prove your practical skill.

You will, after you have been some time in the town, be sure to come in contact with farriers. Meet them with good feeling; remember that farriers practised before the Veterinary College was thought of. They will naturally, however sensible they must be of your superiority over them, feel a jealousy towards you:

they have a right to practise—a right to do the best for themselves and families. All are not vulgar, ignorant, and assuming: there are some well behaved, well informed, and unassuming; ready to follow your advice, though they may be five times your superior in years. When they are in attendance they do their best. And when you may be called in, should you find that one of the latter class has been employed, be very careful that you do not stab him in the back: it is a most cowardly act. If, on the contrary, you should meet with a *fellow whose horrid ignorance and conceit disgusts* you, and who assails your ears with his *impertinence*, tell him quietly, after the paroxysm has subsided, that you make every allowance for his feelings, but that you advise him, if he studies his own interest, to be civil towards you.

You will, of course, frequently come in contact with horse-dealers, many of whom are men of the most perfect honour, and who prefer a buyer taking a horse to a Vet. to be examined before he purchases him. If the dealer is not satisfied with your opinion he will say, You may be quite correct, but he differs from you; and learns his own veterinary surgeon's opinion. There are some of them, however, whose whole duty is the very reverse of the Vet.'s: it is the dealer's duty to conceal faults, while it is our duty to expose them. They will frequently call on you and say, "To-morrow you are going to examine that 'ere cab of mine for a gemman; I hope you vont say nothing about that 'ere off-peeper of his." You will say, "I am sure you have too much good sense to think I would cut my own throat: I know you conscientiously think the injury of the eye no detriment, otherwise you would not wish me to overlook it: if he has defects I must mention them, but I will not magnify them; and if, after I have examined the horse, I can honestly recommend him, I will assist you to my utmost."

By strict rectitude of conduct, and a thorough knowledge of your profession, the life of a Vet. is frequently enviable. He becomes immediately acquainted with the most affluent in the neighbourhood—with sportsmen and agriculturists: his employment is healthy and interesting; he gets paid for what he does, very different, frequently, to the surgeon and apothecary, who may see, perhaps, more patients in one day than you in a week; but in the former case they book much and receive little; what we book we get.

JAMES KERR, V. S.

ON THE TREATMENT OF OPENED JOINTS.

By Mr. Dawson, V.S.

To the Editors of "The Veterinarian."

86, Chiswell Street, Finsbury Square.

Gentlemen,

It is taught, and generally believed, that tendons and ligaments when injured, do not regenerate, like other parts, to complete restoration; but, having within these last few years experienced the contrary, I beg to convey, through the medium of your most excellent publication, for the information of its readers, and the veterinary profession particularly, a plan of treating open joints, that, as far as my observations have gone, is peculiar to myself; at any rate, one not practised at the Veterinary College, an establishment from which I always did and still do feel a great pride in saying I have emanated.

The grand object, gentlemen, (as you well know) in the treatment of open joints, is to stop the flow of synovia: unfortunately, however, the very means necessary to effect this are those that promote and keep up inflammation; and such steps most conducive to the subduing of inflammation, with respect to local treatment, are those that most encourage the synovial discharge; therefore, that application which soonest accomplishes the sealing up of a joint must be best, all being violently irritating, if not caustic in their operation.

In my connexion, gentlemen, I meet with open-jointed knees and pasterns in abundance; and from the very extensive injuries which the sinews and ligaments have sustained in many cases, I have, upon commencing my treatment, considered a cure almost impossible, where I now am quite sanguine of effecting one. I have in a variety of instances, directly after the accident, dissected out several inches of partially divided or much lacerated sinew or ligament, and still the patient has done well, in becoming sound and as workable as ever. It is my uniform practice, gentlemen, to remove by the scalpel every part, whether sinew, ligament, skin, or what not, that nature would herself remove by the sloughing process; by which I conceive several days, or probably a week's treatment is saved, besides the inflammation necessary to produce that separation of dead from living parts. I then foment, say for half an hour, for the purpose of cleansing the wound, as well as encouraging the discharge of as much blood as can be by that means obtained; after this I dress simply, and

bind the joint up by a flannel bandage of some yards in length; this dressing I repeat daily, till synovia appears, when I discontinue fomentations, and use a saturated solution of bichlorate of mercury in spirits of wine; or a lotion made by first dissolving the salt in muriatic acid, in the proportion of two drachms of the former to four drachms of the latter and one pound of water. This dressing may be used twice a day until synovia has ceased flowing, after which the wound may be treated in the ordinary way. In a few instances the foregoing liquids will not be sufficiently strong of the corrosive sublimate to coagulate the synovia as it issues from the joint; you may then use the sublimate in the form of a fine powder, either mixed with some description of farina, or even alone, taking care that it does not find its way into the joint, and as much as possible applying it only to soft parts, and in a manner avoiding every thing but the coagulated synovia which will be found about the opening through which the liquid flows. In punctured wounds of joints the introduction of the powdered sublimate a little way into the opening is the best way of applying it. As a matter of course, I bleed and give physic; and after the joint-oil has been stopped, the local treatment may be the same as what is generally observed to other parts in a state of inflammation. In some cases it will be necessary to inject the wound, and the best liquid I have found for such a purpose, and that may be used with safety, is the extract of lead unadulterated: this, as well as sublimate, has a chemical effect upon the albuminous matter, of which synovia principally consists (although not equally powerful), converting it into a solid, which, by organization I suspect, makes good the breached cavity.

Should, gentlemen, my plan of treating open joints be deemed worthy a trial by any reader of THE VETERINARIAN, I doubt not but that the observations I have made will be borne out in his practice; and as my motives for making them are for the general good of those concerned in the medical management of horses, and to excite others to similar communications, I hope to be excused any presumption I may have been guilty of by giving advice through a public channel.

I have the honor to be, Gentlemen,

Your most humble and very obedient Servant,

R. V. DAWSON.

August 12, 1830.

THE ARMY VETERINARY DEPARTMENT.

"Arma virumque cano."

The importance and respectability of the veterinary profession are in no small degree manifested and maintained by that part of it whose services are devoted to the army.

Many years ago it became a question whether veterinary science was really, nationally considered, a serviceable acquisition or not; whether, as regarded the army, veterinary practitioners had been useful or useless adjuncts to regiments. The best reply that can be made to such a question, is to ask if there be any one (acquainted with the cavalry service) who would be bold enough to raise such a question at the present day. If any such person could be found, I should very much question his cavalry knowledge, and still more his pretensions to judgment on vete rinary affairs.

On the contrary, there is no appointment in a regiment of cavalry, the filling of which gives occasion for more scrupulous vigilance and inquiry to a colonel of experience, than that of veterinary surgeon; nor is there any officer in the regiment whose absence is more keenly felt than his: and hence arises the difficulty he at all times has of obtaining any long leave of absence.

The numbers of horses in former days lost to the service from the spread, inveteracy, and malignancy of diseases, which, under proper and timely treatment, would all have admitted of cure or relief, is quite beyond my present estimation or even conception: grease, canker, glanders, farcy, moon-blindness, inflammation of the lungs, &c. &c. yearly, nay monthly! deprived regiments of many of their most valued horses; whereas, at the present day, grease and canker are never, or ought never, to be seen in a regiment; farcy and glanders but rarely; and inflammation of the lungs, though it in nature cannot be wholly prevented, yet is it much less frequent in its occurrence, and much oftener cured, when it does occur, than it used to be, prior to the appointment of veterinary surgeons.

So much for the service of a veterinary officer in the capacity of a *medical practitioner:* but there is yet another important office he performs, which is that of "passing" horses into and out of the service. No horse can be purchased for the cavalry before he is examined and "passed" (by which is meant "found free from unsoundness or unfitness") by the veterinary surgeon; nor can any horse, on the other hand, be sold out of the service unless he has been beforehand pronounced to be unsound or unfit

for his duty. Here great responsibility attaches to the veterinary surgeon; and, moreover, it is a duty for which an experienced eye alone can be considered to be duly qualified.

Having advanced so much on the importance or *utility* of our art (for I take it, that the one may well weigh with the other), I shall proceed to speak briefly of its "respectability," in reference, at least, to the army.

It strikes me, that if the veterinary profession owes what respectability it possesses to any one set of men more than another, such acknowledgment is due to the army veterinary department. Not that I mean by such an assumption to cast any reflection upon the members who are not in the army, or that I mean to affirm that the credit thus reflected upon the body of army veterinary surgeons is due, exclusively, to the individuals who compose that body.

There cannot be a question that, when King George III conferred commissions upon veterinary surgeons in the army, his good and gracious intention was to induce gentlemen—i. e. men of education and respectability—to qualify themselves for such stations; and, certainly, so far as the encouragement has gone to incline some such individuals to *qualify* themselves for the commissions, the regal endowment has had its effect. But, for all this, the act has failed, lamentably failed, in completing its full intentions, because a minor power has been allowed to step in between the royal grant and the actual execution of it, by which the current, pure at its source, and intended to flow with purity and lustre to its end, has suffered foul and noxious pollution.

Character and education, nay, even eminent professional qualifications, have met with no preference in the election of army veterinary surgeons: private considerations have trodden down all merit and meritorious right; and the army has been disgraced with the appointment of grooms and common blacksmiths, and men of low character and education.

This has been found to work in unison with the other part of the same system; viz. the admission and encouragement of pupils from the low and illiterate classes of society. Stables, blacksmiths' shops, and the out-at-elbow fraternities, and insolvent debtors courts, have annually supplied the Veterinary College with too great a proportion of its pupils; and so favourable has been the constant reception of such aspirants, that the supply has, perhaps, rather augmented than fallen off. How can it be wondered at, then, that we have had such *mauvais sujets* in the army? for did these *gentry* not meet with some reward for their twenty guineas (paid as fee to Mr. Coleman), the influx of pupils, from such quarters at least, might suffer a lamentable diminution.

Nevertheless, in spite of all this corruption, the veterinary surgeons of the army, as a body, may be looked upon as a class of persons of respectability; and they owe such character to the commission they hold, and not to the worthless document styled a "diploma," which they derive from the Veterinary College. The king's commission it is which has stamped them at least with the name of respectability; and the stamp is of that nature that is not easily defaced, even though the individual who has received the impression be any thing but what he ought to have been. Though the candidate appointed to a regiment be a person of no pretensions to scientific attainments, and still less to any thing that appertains to a gentleman, yet will he find himself, on being gazetted, "Gent.," and joining his regiment, placed in such society and under such restrictions as will impose upon him a line of conduct and forbearance incompatible with his old habits, and such as will, in time, replace them by new and reformed ones; thus gradually giving that polish to the exterior which it is now too late to think of imparting to the interior. On the score of "respectability," therefore, there is this difference in regard to veterinarians in and out of the army. The former are so placed and associated, that, even though they be themselves any thing but respectable on their entry, yet will they by habit, nay, must they by discipline, become so, at least in external appearance and general deportment; whereas with the latter it must almost or quite entirely depend upon the qualifications and inclinations of the individuals themselves.

It has already been stated that commissions in the army were conferred upon veterinary surgeons by his late Majesty, George III. It is generally believed that this boon was granted in consequence of the *paternal* interest taken for us by Professor Coleman: but the late Professor Peall (of respected memory) used in his lifetime openly to deny this, and to declare that the favour was first granted in consequence of a peremptory and stedfast refusal on his part to accept of an appointment *on warrant*. Mr. Coleman, in his dedication "to the King" of his work "on the Foot of the Horse," makes the following mention of the circumstance:—"By conferring on veterinary surgeons employed in the cavalry the rank of commissioned officers, your majesty has done more to promote the veterinary art than otherwise *could have been effected in centuries*. This single act has not only raised the art from *contempt* to respectability, but already induced many *medical students of liberal education* to devote their services to its improvement."

Since such a boast was made by Mr. Coleman in returning his acknowledgments to his sovereign for a boon of such vast im-

portance, and since this boast appears to be, in no small degree, founded upon the circumstance of "medical students of liberal education" having "devoted their services" to the art; pray, how came it that Mr. Coleman did not follow up the excellent conferment of his majesty by filling the army appointments with men of "liberal education," instead of stuffing them with any *canaille* who could crawl down his back in the capacity of students, or serve his purpose when they became appointed? If Mr. Coleman would make such a boast about "*medical students* of liberal education," how comes it that he is the very man who for years past has set his face against *medical* men becoming veterinary surgeons at all? If Mr. Coleman could flaunt about "liberal education" in the presence of Majesty, how comes it that "the sons of grooms and farriers" are the "elect" of him and his equally "liberal" assistant?

Not for several years after the attainment of a king's commission was any established or acknowledged *rank* affixed to the veterinary holders of it, any more than that such commission placed them upon an equal line of respectability with the officers of their respective corps. Some disputes and dissatisfaction, however, being manifested respecting "choice of quarters," it was ordered in the regulations for the army, that

"Veterinary surgeons, during the first ten years of their service, should rank as cornets."

"Ditto, after ten years' service, as lieutenants."

"Ditto, after twenty years' service, as captains."

"With an understanding that this indulgence was not to endow them (or any other regimental staff officer) with any claim whatever to military command."

I can remember to have heard a great fuss being made about obtaining this rank for veterinary officers; but, after all, it is worse than that which any other set of officers enjoy. Medical officers, commissaries, paymasters, are all better off in this respect than veterinary surgeons. To be sure, any rank at all in the British cavalry was more than could have been looked for or was deserved by such a tag-rag-and-bobtail set as Mr. Coleman has, one time or another, pushed into the service; but, had the candidates been what they ought to have been, gentlemen, there could have been urged no good reason why they should not rank and enjoy the same privileges as other medical or civil officers.

An assistant surgeon enters the regiment with the rank, at once, of a lieutenant: a veterinary surgeon has to serve *ten years* to come upon an equal footing with him; and ten more before he can rank with the surgeon. Why should this be? The life of

a horse *to the service* is even more valuable than that of a man, because one is worth £40, the other worth only £10; and the profession of the one, to be *properly* acquired, requires nearly as much science and attention as that of the other.

I have heard of such a being as a "*veterinary surgeon* GENERAL;" but I never yet have set eyes upon his excellency. I know that the army list contains the name of "Edward Coleman," as the "*principal* veterinary surgeon;" but I have yet got to learn that "principal" is synonimous in rank with "general;" or indeed is *any rank at all.*

It is very much to be regretted that we have no such a "head"—a superior, who would take a paternal interest in our welfare, and to whom we could lay open our grievances with the hope of their being redressed. And no less useful might such an appointment be made to the service in general than to the department itself: *he* would be the proper and fit person to ascertain,—

"Whether the veterinary surgeon is intelligent and competent to the duties of his station. Whether the registry of veterinary practice is regularly (and *properly*) kept. Whether the farriers are properly instructed and expert in their business. Whether the horses are shod on the most approved principle. Whether the stables are properly ventilated. Whether the means adopted for the prevention of infection (are proper and) have been successful." All which important investigation, as things are at present ordered, comes under the cognizance of an inspecting *general* officer.

In fact, no department has been left so much in the background (important as it has long since been acknowledged to be) as the veterinary department of the army; while every other has been greatly ameliorated, and has undergone vast and striking improvements, this has been left in a comparatively backward and neglected condition, and mainly for the want of "a head," or, at least, such a head as would take an interest in promoting it to the highest degree of utility and perfection.

To what extent, and in what manner, the department is susceptible of improvement, will appear in the course of the future communications of

AN ARMY VETERINARIAN.

AN INQUIRY

INTO THE CIRCUMSTANCES WHICH HAVE BROUGHT INTO DISREPUTE THE OPERATION OF

FIRING FOR LAMENESSES OF HORSES,

WITH AN IMPROVED METHOD, AND SUGGESTIONS FOR ITS ADMISSION INTO HUMAN SURGERY.

By Mr. James Turner, *Veterinary Surgeon.*

[From the Lancet, Aug. 21, 1830.]

"Monstrous presumption!" I expect, will be the exclamation that will head the reply to this letter. Should you, however, Mr. Editor, be disposed to give it a place in your far-famed Journal, viewing the communication merely as a veterinary subject, I think the majority of your readers will be content to smile at it as a novelty, although the more grave portion may be angry, and perhaps, reprove me for temerity.

That I may plead some shadow of excuse for thus addressing you, permit me to state that my whole time and thoughts have been occupied in endeavouring to cure sick and lame horses from my earliest days, and having gained experience by a long practice in a hunting country (viz. Surrey, notorious from its hills and flints for incapacitating the limbs of horses), it has followed that lamenesses, arising from diseases of *joints*, have demanded of me, and received, the most sedulous attention.

The difficulty of establishing a radical cure after the interior of a joint has suffered such violent contusions as are consequent upon hunting over a rough country, is well known, and has induced or rather compelled me to *venture* farther with that veterinary instrument called the *firing iron*, than the generality of practitioners, having pushed the actual cautery to greater extremities, in contra-distinction to that method which is commonly known by the term *superficial* firing.

Now the latter is the generally approved mode, and consists in drawing lines in the skin, at certain distances from each other, with a red-hot iron, about half or three parts through the common integuments. Most of the veterinary authors of the present day reprobate the practice of passing the instrument entirely through the skin. Vide the 14th edition of Mr. White's popular work on the Diseases of Horses; in his *Compendium* for the treatment of diseases, page 310, he remarks, "The skin should never be penetrated; but the cuticle should be destroyed, and a dark-brown impression left on the skin."

Again, Mr. Percivall's Veterinary Lectures, 1st volume, page 358, on the treatment of spavin, this scientific writer observes,

should the ordinary means fail, "firing may be had recourse to, but not deep firing." Also Blaine's Outlines of the Veterinary Art, 3d edition, page 672. This intelligent author is particularly cautious, and limits the operation to the cuticle. Among the old writers on this subject, I observe that the celebrated Osmer forbids penetrating the skin. Both the Professors of the Royal Veterinary College of London have cut this matter much shorter, and nearly extinguished the *fire* altogether, having repeatedly pronounced it a "useless operation."

My desire is to see the "Phœnix rise from its dying ashes," therefore will attempt at showing the causes which have led to the failure and abandonment of the *firing* operation, regarding it as one of our chief resources in effecting *cures*, and therefore indispensable to veterinary surgery.

I am well assured the eminent and highly-talented professors of our national institution are sincere when they inculcate that other remedies are preferable to the firing iron: they are themselves deceived. Having taken notice of the College practice of firing ever since the year 1810, I am well aware that they have fired only *superficially*, and studiously avoided cutting *through* the common integuments; they have, therefore, experienced a succession of disappointments, and consequently have lost faith in the operation. This being the impression at the Royal Veterinary College itself, it is not to be wondered that a corresponding effect should have been produced on the public mind; and the result is, that a very strong prejudice exists at this moment *against* the operation of *firing* in horses, particularly in the metropolis; but it is still upheld in the country as indispensable by post and coach masters, and most sporting men who ride the top pace to hounds.

I am quite certain that the professors have given to the public a candid and honest opinion, but experience has shown me, in too many instances, that superficial firing (that is, where the skin is not completely cut through with the instrument) is not one jot more efficacious than a common strong blister.

Viewing the other method, my practice in firing of horses has convinced me, that the *success* of the operation, *if performed for the removal of lameness*, where the ordinary means have failed, whether situate in a joint or a sinew, depends solely on making each separate line or incision, from end to end, completely *through the skin* or common integuments, *cutis* as well as cuticle, and boldly exposing the cellular tissue, forming the immediate covering of ligaments, tendons, periosteum, &c.; with all due caution, of course, not to pass the instrument so near as to wound or sear these important structures. When the part operated on happens to be the inside of the hock, a case of spavin, for instance, all the

dexterity, tact, talent, and *nerve* of the experienced practitioner will be in requisition; for while he strenuously exerts himself amid the struggles of his patient, he revolves in his mind the absolute necessity of his instrument reaching the surface of the disease itself; and yet, on the other hand, he has to consider the paramount necessity of avoiding a puncture of the capsule of the joint.

With respect to the rationale of this method of firing, the kind of instrument as to shape, size, &c., the great variety of cases for which it is applicable, together with the fore-and-after treatment of the patient, I have as much to remark as would fill a volume, and which I purpose, ere long, to submit to the public. But I deem it necessary to state, that although my brother, Mr. Thomas Turner, Veterinary Surgeon, of Croydon, and myself, have practised these deep cautery incisions successfully for a series of years, we have never allowed that success, in a single instance, to entice us off our guard, by venturing to perform this operation so far from home as to preclude the possibility or convenience of almost daily watching our patient, and therefore, by never having allowed that sturdy opponent, "inordinate inflammation," to have gained a day's march on us, we can defy the world to say, that a single mishap has occurred to us from the severity of the operation, such as an opened joint, or a fatal termination from excessive irritation or constitutional disturbance.

I fear, Mr. Editor, your patience is exhausted; but I have now only just arrived at the burden of my story, therefore I will come to the point by asking you, whether it is your opinion that this *deep* method of firing, as above detailed, may some day or other become admissible in the surgical treatment of human beings for many of those intractable scrofulous inflammations of the synovial membranes of joints, commonly called white swellings of the knee, hip-joint cases, &c.?

Of course I cannot pretend to any knowledge whatever in such matters, only that I have been led to think on them from having carefully perused those splendid yet plain lectures by Mr. Lawrence. In the treatment of ulceration of the cartilages of joints, Mr. Lawrence remarks, page 485 of vol. ii of THE LANCET, that your "great reliance must be on counter-irritation," and that in the days of Hippocrates, the same principle was employed by the application of the actual cautery, and that Professor Rust, of Berlin, considers the hot iron as more efficacious than other means of employing this principle.

Now, Sir, I humbly suggest, that if such desperate cases have derived benefit from the days of Hippocrates down to Professor Rust's time, by only cauterizing or searing the *surface* of the skin,

how much more may be expected by making numerous crucial incisions *through* the skin with the actual cautery, occupying a surface of integuments by these lesions, somewhat more extensive than the disease is supposed to occupy within the joint, thereby creating artificially a counter disease, truly formidable, but yet controllable.

If had recourse to in the *earliest* stage of the disease, I entertain an idea that the patient would experience instant relief by the *bold and free incisions releasing the capsular ligament from the pressure of the integuments*, the bare circumstance of putting the patient out of pain by removing tension during the period of the acute stage, might ward off the chronic form of the complaint, in more *suddenly* arresting its progress, than the operations of leeching, purging, fomenting, &c.

I will not presume any further on the subject; but as I am reasoning from analogy only, I must beg to add, that I have also practised these *cautery lesions* upon hounds, for a disease which huntsmen call the stifle joint lameness, usually with success, and never with the supervention of any disastrous circumstances.

Horse Infirmary,
311, Regent Street, Aug. 14, 1830.

ON SPONTANEOUS RABIES.

By Mr. YOUATT.

I DO not think that Mr. Dewhurst has fairly met my challenge as to the spontaneous origin of rabies in the dog. I had put the matter on this ground,—that, in man, the horse, cattle, sheep, and swine rabies was acknowledged to arise from inoculation alone: and I asked "if its spontaneous origin be denied in so many animals, where is the proof that it arises in *any* animal without the contact of the rabid virus?" and I called for one authenticated instance in which it had been produced by any cause except inoculation.

Of course I expected three things connected with any case of supposed spontaneous rabies which might be adduced. A detail of symptoms during the life of the animal, sufficiently characteristic of the disease to satisfy an impartial enquirer; a history of the post-mortem appearances, corroborating the conclusion which would be drawn from the symptoms; and such an account of the *habitance* of the animal as would preclude the possibility of his having been inoculated. These three things I should require; and I might, perhaps, be justified in demanding a fourth— a manifest cause of the disease separate from inoculation.

As to the first, Mr. Dewhurst says that the animal "was seized with symptoms indicating a violent attack of rabies, but which need not here be enumerated; and after lingering several days, to the great terror of his mistress and her servant, he died." I must beg leave to tell Mr. Dewhurst, that there was "need" that the symptoms of the case should "be enumerated;" for although I have much confidence in his skill, I should, under such circumstances, choose to judge for myself. I have not here, however, even the benefit of Mr. Dewhurst's judgment; for it would appear that he did not see the dog while living—"being in the habit of attending the old lady professionally, I was soon informed of the decease of her favourite." I should, therefore, be entitled to ask, by whom were the symptoms observed, that I might form my opinion as to their capability of accurate observation and faithful narration.

But I wave all this; for when I proceed to the second point, the morbid appearances after death, Mr. Dewhurst has furnished me with sufficient proof that it was *not* a case of rabies. He says that "on opening the head the dura mater had its vessels gorged with blood; as were the other membranes: the whole substance of the cerebrum was likewise in a high state of vascularity, and the lateral ventricles contained about a drachm of bloody serum." "The intestines were completely loaded with patches of ulceration; and where it was not affected by this process, the mucous membrane was as if painted with dark crimson venous blood."

I confess I cannot recognize in this one character of rabies. I have seen some vascularity of the membranes, the degree of it depending on the previous phrenitis, but *never much increased vascularity of the cerebral substance.* I have seen inflammation extending *occasionally* from the stomach to the small intestines, but never any "patches of ulceration, or painting with dark crimson venous blood." I see nothing resembling rabies; and I think Mr. Dewhurst, on recollection, will acknowledge that he has given an accurate and satisfactory account not of that disease, but of *inflammatory fever;* which might, in its early stage, be accompanied by sufficient general excitation to cause "great terror in the mistress and her servant," and which would leave precisely these lesions of the brain and the intestines, and I may also add, "the larynx, pharynx, and whole œsophagus."

Mr. Dewhurst adds, "that the stomach exhibited the usual morbid appearances explained in THE VETERINARIAN and in Mr. Y.'s re-publication." Most certainly there would be spots of ecchymosis or ulceration in the stomach; but when he adds, "suffice it to say, that the morbid appearances which he has stated generally, were nearly all found in the dissection of this animal," I confess I am

somewhat astounded, for I never described and never saw a case in any degree resembling that which Mr. Dewhurst has given us.

The third point it is unnecessary for me to enter upon if this was not a case of rabies; and to Mr. Dewhurst's question, "If this was not a case of spontaneous rabies, permit me to enquire of Mr. Youatt what it was?" I unhesitatingly answer, "Inflammatory fever."

Mr. Dewhurst's observations at the close of his letter are ingenious and valuable. It is of great importance to ascertain whether "violent inflammation of the bowels, or any other inflammatory affection, can terminate in rabies." It may be imagined that my humble opinion is decidedly in the negative: but facts alone can set the question perfectly at rest; and I would ask for these facts: I would ask for the history of any case in the quadruped or the biped, in which "any inflammatory affection has terminated in rabies." I should protest, however, against cases similar to those to which Mr. D. alludes, "where the pain is on some occasions so intense as to create almost a state of madness." Delirium, or madness, may result; but rabies is an affection distinct from them.

To his second question, "Are the agonies arising from morbid affections ever attributed popularly to rabies?" the case which he describes affords a satisfactory answer—inflammatory fever was mistaken for rabies; and there can be no doubt that hundreds of poor dogs are yearly destroyed as being mad, in whom not one symptom of rabies had appeared. "It is, therefore, highly important to society that a line of demarcation should be drawn between rabies and other diseases of an inflammatory nature." I have endeavoured to draw it in the collection of papers on "Canine Madness" which I have ventured to re-publish; and I would entreat the able assistance of Mr. Dewhurst, and other scientific and practical men, in more clearly defining the boundaries between these regions of danger and death.

The question of spontaneous rabies, as it has been somewhat improperly termed, and by which is meant, the possibility of rabies originating from *any other cause* than the bite of a rabid animal, is a most important one, involving the justifiableness of our pleasant intercourse with our faithful and sagacious canine friends, the safety of our families, and the possibility of eradicating one of the most dreadful diseases with which a human being can be afflicted.

Nassau Street, Aug. 23, 1830.

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THE VETERINARIAN, SEPTEMBER 1, 1830.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

WE with pleasure again adopt a communication from one of our correspondents as our leading article. We perfectly coincide with him; and we think we can assure him, that the time is not far off, when that which he wishes will be carried into effect.

To the Editors of "The Veterinarian."

Gentlemen,

I READ with a great deal of interest the letter of the "Stander-by," in your number for July. He is perfectly right. Before you can vindicate the just claim of the veterinary profession, you must make that profession what it ought to be; or, rather, it has no claim on the respect of the public until it is thus made. The market will not be forced, and the public will not be driven.

I agree with you, and I confess it with indignant feeling, that the profession has been sacrificed, cruelly sacrificed, by those who ought to have been its guardians: but what has been done, unfortunately cannot be undone; and we must take the profession as it is, and then the claim it can fairly and successfully urge would be a matter of melancholy calculation. Composed of the kind of persons of which it is, or so many of that class of persons who ought never to have been admitted into it, debasing and degrading it, grooms and coachmen, porters and whippers-in, can gentlemen of your good sense hope immediately to succeed in your well meant efforts to establish its respectability. I will tell you, with the "Stander-by," that you must first alter the character of the profession.

Has it never occurred to you that there is a method by which it might be altered, if not with all the rapidity you would wish, yet surely and not slowly? Have you forgotten that there is a College of Surgeons, a College of Physicians, a Society of Apothecaries, chartered by government, and *altogether distinct from any school;* and whose diploma is a necessary introduction to the

career of every human practitioner? Have you never asked yourselves, whether if the better part of us were to memorialise government to this effect, or if some influential member of parliament were to make it the subject of grave discussion and severe enquiry in the common's house, and to state, and justly state, that we are a branch of the medical profession, although an inferior one; that more than a hundred millions of the property of the country are at our mercy, benefitted by our skill, and deteriorated by our ignorance; and that, therefore, justice to us, and justice to the interests of the country demanded, that if we were not placed on a level with our brethren of human medicine (and that we did not ask), we should at least be treated in a similar way; and that our profession, and the lives of our patients, and the property of the country, should have a similar guard; have you never asked yourselves whether this would not carry so much reason and propriety on the face of it that it would be immediately granted?

Would the memorialists or the patriotic senator want other arguments? Let him move for the production of the *soi-disant* veterinary college books; the—the—the—previous *employment*, and the previous advantages, and the length of study of too many a veterinarian whose name is recorded in those books: let him ask what the colonels of regiments have thought of, and what they have been obliged to do with many young men of *college* recommendation; let him ask what is the opinion of cavalry officers of *college recommendation;* let him ask what is the opinion of sporting men of college practice, and what is the opinion of agriculturists of college students.

If all this could be brought under the cognizance of government, the case would be too plain to admit of a moment's hesitation.

I have said that this college of veterinary surgeons should be independent of every school. It is my private opinion, that no teacher or lecturer should have a place at the examiners' board of any such college; but as teachers and lecturers are found at the board of examination at Surgeons' and Apothecaries' Hall, and the system has worked well, why e'en let them be found

here. I would have the examiners, twelve in number at least, selected from the body of veterinary practitioners at a public meeting of that body, and the vacancies filled up at an annual public meeting; although I should not much object to suffer the vacancies to be filled up by the remaining examiners. I would have required from every one who presented himself for examination an evidence of veterinary education, in some form or other, and some where or other, and no matter where, but for a competent period (say two or three years); some portion of that, however, should be spent under a public teacher; and it would be the fault of the St. Pancras teachers if they did not here bear off the bell. I could not be assured that the student would possess that anatomical knowledge which is the only sure foundation of good practice without this. Lastly, I would have the examination strictly veterinary, and extending to the whole duty of the veterinary surgeon, and public.

I ask you again, gentlemen, why this has not occurred to you? why you have not publicly advocated it? or whether you can state any plan so well adapted to remedy the evils which you have too truly proved to exist? Those already in practice must be left to pursue their course. We must have no *ex post facto* laws, for they are manifestly unjust; but we should thus guard against the future admission of incompetent persons; and much sooner than you or the "Stander-by" expect, the character of the profession would be redeemed.

Are there none among us who have sufficient spirit and influence to set this a-going? Is there no public-spirited senator who will ensure the gratitude of our profession, and of the public, by bringing it under the cognizance of the legislature? Such, I have no doubt, will soon be found. The grant from government for the establishment of this *true* veterinary college would not be great; and at no distant period of time, this college, like the others, would support itself.

In advocating this, what harm are we doing to any one? Let the St. Pancras school still remain. Its number of subscribers, its number of patients, its number of pupils need not be diminished: its professors need not be pushed from their chairs. Nay, the

school, roused to exertion by the fact of the competency of its pupils being submitted to the examination of another board, and by the probable starting of rival schools, would be materially improved, and its students, and its funds, and its patients, and its subscribers, would increase with that improvement. We would only put the St. Pancras school on the same footing with Guy's, and St. Thomas's, and Bartholomew's, and St. George's Hospitals, and the Windmill-street, and the Aldersgate schools, and even the London University and the King's College. They confer no degrees ;—they are content with the *education* of the student, and there is an honourable rivalry among them, who shall best educate him :—they leave it to another board to decide on the result of their efforts, and the competency of their pupils ; and I ask, in the name of common sense, what claim the veterinary school at St. Pancras has to privileges which none of the others enjoy, and which they would be hooted and despised if they urged. There is, indeed, one set of men whom I should displace,—men whom I sincerely esteem, and to whom I owe much gratitude, but who are now pertinaciously, and, I may say, almost dishonourably occupying a post which is no longer justly theirs, and by that occupation assisting in the degradation of our profession: but I am sure there is in the majority of them, nay, in all of them, when old connexions and habits do not blind them to a sense of propriety, that good feeling which would induce them to retire without a murmur. Let no one tell me that I am attempting to degrade the St. Pancras college when I leave it every privilege enjoyed by the highest medical school in the metropolis, and only take from it that anomalous office which it ought never to have been permitted to exercise, and which it has exercised to its own and our disgrace.

Let me enlist you, gentlemen, in the accomplishment of this important, and reasonable, and truly just object ; and until it be accomplished, I would say, pursue the path which you are now treading. Improve the present education of the veterinary pupil. The establishment of the college which I have recommended will take a great deal of work off your hands : it will render our principal school solicitous that its pupils shall pass the ordeal of

such a board, or it will give existence to other schools, more efficient, and which would stimulate the old one to do its duty. In either case, good would result. Improve the education of the veterinary pupil. Expose the abuses of the St. Pancras school, and especially use your powerful influence to promote the decisive step to which I have referred.

AN OLD VETERINARY SURGEON.

IS GLANDERS CONTAGIOUS?

THIS very important question is far from being set at rest among English veterinarians. The veterinary surgeon, and the proprietor of horses, is deeply interested in it. We invite our correspondents to the consideration of it, and the communication of their experience; and, in the mean time, we give the result of some experiments made at the veterinary school at Alfort. They are recorded in the "Recueil de Médecine Vétérinaire," June 1829:—

A horse, with cough and affection of the chest, and two setons inserted in the chest, and in active discharge, and the membrane of the nostril presenting light red streaks, was placed in a shed with three glandered horses seven months and a day.

A mare, with two setons in the chest for a similar affection, was placed with two glandered horses during three months and twenty-four days.

A mare, remained with a glandered horse during three months and seventeen days.

A horse was placed with two others, glandered, during two months and eleven days.

A mare was loose in the same stable with seven glandered horses, for eight months and twenty days.

A horse lived with five others, glandered, during ten months and three days.

A horse was in the same stall with a glandered horse three months and five days.

A mare was placed with a glandered horse two months and four days.

A horse worked in the same team with others who were glandered eleven months.

All these either died or were destroyed, and the morbid appearances which characterize glanders were not found in one of them. In every one of these experiments either the horses were loose, or the sound horse was placed between and in contact with two glandered ones.

THE VETERINARY MATERIA MEDICA.

ARSENIC.

"NIMROD'S" communication in the last No. of THE VETERINARIAN on the subject of *tonics* improving condition, and in particular of arsenic having, or appearing to have had, such an effect, has induced us to offer a few observations in regard to the efficacy of this potent mineral.

It is a medicine that has been of late but little used in veterinary practice, although one that is possessed of great power both as an internal and an external remedy, and many years ago in high repute at the Veterinary College, and among those who proceeded from that institution, both as a tonic and a vermifuge. The preparation of arsenic used in veterinary practice is the white oxide, commonly called white arsenic. It is prepared by mixing the common arsenical ores with potash, and exposing them to a strong heat. The sulphur of the ore unites with the potash, and forms sulphuret of potash, and the arsenic is sublimed and condensed in flakes or powder round the retort or oven. It will be highly necessary for those who use or experiment on arsenic to ascertain its purity, for, cheap as it is, it is included in the scandalous system of adulteration practised by druggists. The simplest and the most decisive test is to expose it to a red heat on an iron plate. If it be pure, it will be entirely volatalized, and the quantity of residuum will indicate the quantity of chalk or plaister of Paris with which it was adulterated.

Arsenic may be introduced into the system either in substance or in a state of solution; or even, we should imagine, in a gaseous form. We knew of the case of a horse (locally affected with chronic glanders) who took five drachms and a scruple of powdered arsenic, in ball, at a dose, he having begun with taking a drachm, and having had that quantity increased daily by an additional scruple. Our experience, however, teaches us, that a more prudent and efficacious plan of proceeding would be to exhibit it in *grain* doses, being advocates ourselves for the prescription of medicine in general in small or *divided* doses; it only requiring, generally speaking, a more frequent repetition of the

dose to produce quite as much or even more effect than with a large quantity.

The form in which we have been in the habit of administering arsenic, is in solution—what is called Fowler's solution; and which accords with the present Liquor arsenicalis of the pharmacopeia. It is an elegant and convenient formula for the purpose, providing no spirit of lavender, or any flavouring or scenting ingredient is added to the simple solution, and which should be, for veterinary purposes, a *saturated* one.

At one time we promised ourselves some successful results from entering upon the steady and persevering exhibition of so potent a medicine as arsenic was known and by all acknowledged to be. We imagined that what had so much power in a concentrated form to do harm, was very likely, by diffusion and dilution, to become, in some way or another, very serviceable. We first made trial of it upon horses condemned for glanders. We found, when we overdosed them, that the painful symptoms it gave rise to much resembled what is denominated "gripes;" that they were those, in a strangely alarming form, of abdominal irritation; and that, after an animal had sunk from the effects of the poison, his stomach exhibited patches of intense redness, mortification, or an approach thereto, and from which were hanging flocks of albuminous matter. This was more particularly the case from the exhibition of the powder. When the solution had been administered, and for a long while antecedent to death, the inflammation of the alimentary surface was less intense, but more extensive: it was not merely confined to the stomach; it pervaded the duodenum, and left marks upon the continuation of the canal, though the principal parts attacked were the cæcum and colon, the mucous surfaces of which became blackened, and rotten in texture, particularly that of the blind pouch, which probably arose from the detention of the contained matters in that part. What is remarkable in these cases, also, is, that the viscera (which are commonly more distended than usual) contain a gas of so fœtid and offensive a nature, that we can hardly continue the examination until it has been dispersed.

We have exhibited arsenical solution with much steadiness and perseverance in cases of specific ophthalmia; but we never could discover that any benefit accrued from it. There is very little trouble attending the administration of the mineral in this form, it being only necessary to keep the animal "short of water;" when he will drink half a pail full, or more, into which the solution has been added, and which imparts neither colour, scent, nor flavour to it, in the slightest degree.

We have made some other trials with arsenic, as an internal

medicament, for the cure of glanders and the expulsion of worms, &c., and more particularly in cases of farcy. In that complaint we have exhibited it in all doses, from a few grains to two drachms. We have given it as a tonic generally, but we could never satisfy ourselves that we had obtained any advantage by it, and we must confess that we had given it up as a useless article of our pharmacopeia. Nevertheless, we are pleased to think that some one else has discovered virtues in it; and we hope that Mr. Moulden will not withhold from his veterinary brethren an account of the manner and circumstances under which those virtues may be made available. In the mean time, we feel, as individuals, indebted to our friend Nimrod for his communication, and shall be most happy to hear from him again, whenever he may make a hit anywise serviceable to those with whom he has now been for some time running side by side—us, Veterinarians.

Of its use, when externally applied, we shall treat in another Number.

We may occasionally be consulted with regard to the suspected poisoning of valuable animals with arsenic. The decision of this matter, or rather, the test of the presence of arsenic, is not, in our patients, the straight forward matter which some have described. We know very well that a stream of sulphuretted hydrogen gas passed through a liquid containing arsenic, will cause a beautiful yellow precipitate; that if to the suspected liquor we add a little sulphate of copper, and after that a small quantity of ammonia, we shall have as beautiful a grass-green precipitate; or, if we use the nitrate of silver, and then the ammonia, we shall have a yellow precipitate; or if we make at first an ammoniac sulphate of copper, or nitrate of silver, and drop it into the suspected liquor, these effects will immediately appear; or, if we pour lime-water into it we shall have a white precipitate; or, if a solid or semi-solid mass is put upon red hot iron we shall have a strong scent of garlic. All this is sufficiently plain, and, seemingly, very easy to be performed; but in our larger patients there is so much vegetable matter in the stomachs and intestines, staining the fluids of a dark green or brown colour; and in the dog, such a compound of animal and vegetable matter, that our tests will not act, and we are all abroad. If, however, we filter a portion of the fluid through a tolerably thick bed of ivory-black, we deprive it of a great proportion of the animal and vegetable matter with which it was combined, and, also, it must be confessed, of some portion of the arsenic, although, probably, sufficient will be left; but we shall gain this advantage, that the fluid will become perfectly pellucid, and all our tests will be available. A small quantity of the solution of chlorine will likewise decolorise the fluid, and prepare it for our tests.

Extracts from Journals, Foreign and Domestic.

Powers of the Race-Horse.

[From the Sporting Magazine.]

In answer to a question asked by Sir John Sinclair, Mr. Robson, the excellent trainer at Newmarket, gave it as his opinion, that "the perfections of a race-horse consist in his *wind;* which is innate in their breed, and degenerates when mixed or crossed. It is observed, sometimes, that the other (half-bred) species of horses go nearly, or quite, as fast as the slower kind of race-horse; but they very soon tire from want of wind; whilst the running-horse breed has the peculiar merit, from his wind, of bearing fatigue so much better than any other breed of horses."

The following narrations of "remarkable races" are curious and interesting: they would have proved of much greater value, however, had the spaces of time in which the respective heats were run been accurately noted and recorded: in fact, this is information which ought to accompany all such accounts: they might then turn out of some service in a scientific point of view; at all events, it is a sad deficit, when the object is to show the speed or "wind" of race-horses.—Edit.

Carlisle, May 13th, 1761.—£50. for four-year-olds, 9st. each. Two mile heats.

Dr. Dunn's b. c. *Cadabora*, by Cade, dam by Shock	1	7	0	3	0	1
Mr. Dalton's b. c. Bold Burton	8	5	6	1	0	2
Mr. Lupton's b. f. Stella	3	1	4	5	3	3
Mr. Pearson's ch. c. Heart of Oak	5	3	0	2		
Mr. Taylor's br. c. Cuddle me Cuddy	2	6	3	4		
Sir J. Lowther's b. f. Scotch Moggy	7	4	7	6		
Mr. Shaftoe's b. c. Brilliant	4	2	5	dis.		
Mr. Holme's gr. c. Tyro (fell)	6	dis.				

Cadabora ran *two* dead heats: viz. the third with Heart of Oak; the fifth with Bold Burton. Brilliant ran against a post in the fourth heat, and bruised his rider so much that he expired the same night.

In 1793, Mr. Donner's bay colt by Drone, dam by Alfred (afterwards the property of Mr. Cookson, and called Meanwell), winner of the Maiden Plate at New Malton, ran fourteen heats for three plates within five weeks: viz. Sept. 11th, at Stockton, four heats; Oct. 3rd, at Boroughbridge, five heats—the third a dead heat with Mr. Hutchinson's Byrom by King Fergus, dam by Engineer; and, lastly, Oct. 16th, at Malton, five heats—the fourth a dead heat with Mr. Joliffe's Young Posthumous—a circumstance, perhaps, unparalleled in the annals of the turf.

DONCASTER, Sept. 28th, 1797.—One Hundred Pounds, weight for age.—Two mile heats.

Mr. G. Crompton's b. c. *Warter*, by King Fergus, dam by Highflyer, 3 yrs.	5	0	5	1	0	1
Sir C. Turner's ch. c. Pepper-pot, by Volunteer, dam by Highflyer, 4 yrs.	3	0	1	5	0	2
Sir F. Standish's br. c. Stamford, by Sir Peter, out of Horatio, 3 yrs.	1	3	6	2	dr.	
Mr. Wentworth's b. c. Cardinal, by Delpini, out of Miss Judy, 4 yrs.	2	5	2	3		
Lord A. Hamilton's b. c. by Trumpator, out of Betsey, 4 yrs.	7	4	4	4		
Mr. T. Hutchinson's br. c. Hipswell, by King Fergus, out of Lardella, 3 yrs	6	6	3	dr.		
Mr. Sitwell's ch. c. Commodore, by Volunteer, out of Sister to Soldier, 3 yrs.	4	dr.				

The first heat was strongly contested between Stamford, Cardinal, and Pepper-pot; the second a dead heat between Warter and Pepper-pot, Stamford running third; the third heat was won by Pepper-pot; the fourth by Warter; the fifth also proved a dead heat between the same two horses; the sixth was won by Warter.

EGHAM, September 3d, 1800.—The Ladies Plate of £50. for three and four-year-olds.—Two-mile heats.

Mr. Fletcher's *Allegranti*, by Pegasus, out of Orange Squeezer, 3 yrs. 7st. 11lb. (W. Chifney)	0	0	1	1
Mr. Slark's b. f. Lady Skirmish, by Pegasus, 3 yrs. 6st. 11lb.	3	3	3	3
Sir C. Bunbury's b. c. Gig, by Whiskey, out of Amelia, 3 yrs. 6st. 10lb. (Goodisson)	0	0	2	dr.

LICHFIELD, Sept. 12th, 1804.—Fifty pounds for three and four-year-olds, that never won a Plate of greater value.—Two-mile heats.

Mr. Clifton's b. c. Sir Ulic M'Killigut, by Whiskey, 4 yrs. 8st. 7lb.	4	4	1	0	1
Mr. Coventry's ch. f. Laura, by Pegasus, 4 yrs. 8st. 4lb.	0	1	3	0	2
Mr. Killermann's ch. f. Mary, by Precipitate, 4 yrs. 8st. 7lb.	3	3	4	3	
Mr. Brookes's b. c. Optician, by Telescope, 3 yrs. 7st. 2lb.	0	2	2	dr.	

1806, June 26th.—H. R. H. the Prince of Wales's b. c. Pedestrian, by Pipator, out of Heroine by Phenomenon, four years, ten stone, and Mr. Mellish's br. h. Norval, by Jupiter, out of Thatchella by Highflyer, six years, ten stone eleven pounds, ran *two dead heats* at Bibury, for a Handicap Plate of £50, heats the New Mile.

MALTON CRAVEN MEETING, March 19th, 1807.—£50 for all ages.—Two-mile heats.

Mr. N. Hodgson's b. m. *Lady Mary*, by Beningbrough, 6 yrs. 9st. 4lb.	0	0	1	1
Mr. Marris's br. c. Sir Sampson, by Stamford, 3 yrs. 8st. 6lb.	0	0	2	dr.

The third heat was won only by a head. Sir Sampson, it being dark, was then drawn, and Lady Mary walked over.

LEICESTER, Sept. 21st, 1809.—The Burgesses Purse of £50.—Four-mile-heats.

Lord Lowther's b. g. *Hylas*, by Beningbrough, 5 yrs. 8st.	0	2	0	1	1
Sir T. Stanley's b. g. Viper, by Serpent, 5 yrs. 8st. 3lb.	3	3	0	2	dr.
Duke of Rutland's br. c. Ned, by Teddy, 4 yrs. 7st.	0	1	3	3	dr.

NEWTON, June 14, 1816.—A Plate of £70, the gift of J. Blackburne, Esq. weight for age.—Three-mile heats.

Sir T. Stanley's br. g. *Charioteer*, by Young Chariot, 4 yrs. 7st. 11lb.	3	4	1	1
Mr. Sykes's gr. h. Outcry, by Camillus, dam by Waxy, 5 yrs. 8st. 8lb.	0	0	2	2
Mr. Garforth's gr. c. by Camillus, dam by Ruler, 4 yrs. 8st.	0	0	dr.	
Mr. Fletcher's br. g. Viceroy, by Sancho, 6 yrs. 8st. 9lb.	4	3	dr.	

NEWCASTLE (STAFFORDSHIRE), Thursday, August 10th, 1820.—A Handicap Sweepstakes of five guineas each, with fifty guineas added, for all ages.—Heats twice round and a distance.

Sir J. G. Egerton's b. c. *Astbury*, by Langton, dam by Hambletonian, 4 yrs. 8st. 6lb.	3	3	3	1	1
Mr. Mytton's b. c. Handel, afterwards Theodore Majocchi, by Governor, out of Laurel Leaf, by Stamford, 4yrs. 7st. 11lb.	0	0	0	2	2
Sir W. Wynn's b. c. Tarragon, by Haphazard, out of Arquebusade, by Sancho, 4 yrs. 8st.	0	0	0	3	dr.
Sir T. Stanley's ch. c. Cedric, by Walton, out of Trull by Precipitate, 3 yrs. 6st. 13lb.	4	dr.			

WELLS (SOMERSETSHIRE), July 13th, 1825.—Sweepstakes of five sovs. each, with 30 added.—Heats one mile and a distance.—4 subs.

Mr. Dundas's b. c. by Pyramus, 4 yrs. 8st. 5lb. (C. Day)	0	1	0	1
Mr. Dilly's ch. m. Prosody, by Don Cossack, aged, 9st. 2lb.	0	2	0	dr.
Mr. Small's b. f. Eaglet, by L'Orient, 3 yrs. 7st. fell	dis.			

The Pyramus colt walked over the last heat, and Mr. Dundas agreed to divide the stakes with the owner of Prosody.

NEWMARKET SECOND SPRING MEETING, May 18th, 1827.—Handicap Plate of £50 by subscription, being the third of three £50 Plates, for three, four, five, six-year-olds, and aged horses. A.F.

Mr. Scott Stonehewer's ch. c. *Goshawk*, by Merlin, 4 yrs. 8st. 6lb. (Robinson)	0	0	1
Mr. Wyndham's gr. h. Stumps, by Whalebone, 5 yrs. 9st. 2lb. (Arnull)	0	0	2
Mr. Payne's colt, by Octavius, dam by Election, 3 yrs. 6st. 4lb.	3		

The following also started, but were not placed:—Mr. How's Skill, by Partisan, 6 yrs. 9st. 2lb.; Lord Anson's Noureddin, by Aladdin, 4 yrs. 8st. 2lb.; and the Duke of Grafton's Dæmon, by Amadis, 3 yrs. 6st.

Mr. Payne's Octavius colt ran in third by a head only. The third heat was won by Goshawk by more than a length.

On the Diseases of the Spinal Cord and its Membranes in the Horse.

By M. Bouley, *Jun.*

[Recueil de Médecine Vétérinaire, Dec. 1829.]

They who have compared with care the diseases of the nervous system in man and the horse, have remarked that these affections appear to have relation to the development and importance of this system in each. In man, whose brain is large, and his spinal cord little developed, cerebral maladies prevail, while, in the horse, whose conformation is the reverse, affections of the spinal cord are most frequently observed. The organization of the spinal marrow, the important functions which it exercises, and the phenomena which result from the alterations of which it is susceptible, have not been sufficiently studied; and to this we must attribute the almost absolute silence which some writers on the medical treatment of domestic animals have kept on the maladies of this important organ; maladies which, by their frequency, and their nature, ought to engage more of the attention of veterinarians. Particular circumstances having permitted me to collect a great number of facts on these affections of the horse, I proceed to consider them in this memoir; but I would premise, that I have no intention to offer a correct and full history of these diseases—I leave that for a more scientific and practised pen. I know that the records of cases which I possess are neither sufficiently numerous nor complete to justify me in attempting this; but my object will be attained if I shall be enabled to throw some light on a division of our pathology hitherto so obscure.

Although the maladies of the spinal marrow are yet little known in veterinary medicine, they have been the subject of many researches. Among those who have particularly occupied themselves in this study, I must mention the name of Dupuy. The Director was the first among us who made us sensible how important was the observation of the alterations of the contents of the spinal canal. He has collected together a crowd of facts on this subject, contained in the records of the veterinary schools, and in the journals of human and veterinary medicine; and from which it appears that the softening of the spinal cord is of frequent occurrence among our domestic animals, and that he has remarked it in diseases which appear to have little analogy with each other, as rabies, palsy, stomach-staggers, &c.

The correspondence of Fromage de Feugré contains only one

observation relative to the subject before us. It consists of a short note of many instances of palsy observed in oxen, without any sensible alteration of the spinal cord. It is attributed to M. Buisson, veterinary surgeon at Saint Antoine.

Gohier, in the first volume of his journal, has related two facts of palsy of the hind limbs in the horse. In one it followed a fracture of the scapula, in the other it was occasioned by a callus situated on the ribs at the sternum. In the first there was a considerable deposit between the spinal marrow and its envelopes at the lumbar region; in the other there was no remarkable alteration.

The Director of the school at Alfort has described two maladies of the sheep. The first violent and little known, and which attacked lambs only. At its commencement it resembled the "blood," but it afterwards connected itself with "turnsick," and speedily terminated in universal palsy. The functions of digestion were not disturbed: the animal preserved his appetite to the last moment. On dissection, there appeared inflammation of the membranes of the brain, and some hydatids scattered on these membranes. In many, the spinal canal contained much serous effusion, and *the spinal* marrow was softer than in a healthy state.

The second disease peculiar to the sheep is recognized by the name of trembling, or nervous affection. It commences with inflammation not very intense, which is quickly followed by general loss of power. A considerable itching or eruption generally announces the attack; to this succeeds a remarkable weakness in the loins, and that is soon followed by complete palsy. Some of them linger on three or four months, or longer, before they die.

M. Girard has not discovered any organic lesion in those who died at an advanced period of the disease: in those who were destroyed in an early state of the affection, some traces of inflammation were observed.

Barthelemy, sen., has reported, in the transactions of the school at Alfort, many observations on dogs affected with palsy, attributed to softening of the spinal cord, and successfully treated with the nux vomica.

In the first number of the "Recueil de Médecine Vétérinaire" I have related a case of palsy of the abdominal region in a horse, produced by softening of the inferior part of the dorso-lumbar portion of the spinal marrow, and characterised by loss of motion, with preservation of feeling.

A little time afterwards, M. Coulbeaux published an ana-

logous case in the same Journal. The horse presented the same symptoms and the same lesions, with a sensible alteration of the muscles.

M. Charlot has published three cases of palsy in the horse. Two of the animals were completely healed by the alternate employment of antiphlogistics and the nux vomica. In the one that died, the spinal marrow was softened from the middle of the neck to the first dorsal vertebra. The left brachial plexus was very red, and the nerves which proceeded from it.

A mare, afflicted with complete palsy of the hind limbs, was unsuccessfully treated by M. Prevost with the nux vomica in large doses. No remarkable alteration was perceived in the dissection of her, and during the whole course of the disease she had retained the usual feeling in the limbs deprived of all motion.

A softening of the inferior part of the spinal marrow, and a sensible alteration in the nerves which proceeded from it, were observed by M. Gellé in opening a horse that had died of traumatic tetanus. In several dissections that I have made of horses that have died of tetanus, I have never failed to find these lesions.

M. Olivier has recorded a case of a palsied mule, in which feeling survived the total loss of motion. He found a softening of the inferior part of the lumbar portion of the spinal marrow: the grey portion of the substance of the cord was reddened, but the membranes presented no remarkable alteration. The muscles around were infiltered with a yellow fluid, and were easily torn.

M. Chouard has related two cases of secondary palsy in horses, with aneurism of the posterior aorta. In the first, the lumbar portion of the spinal marrow was in an almost fluid state. In the second, it had an unnatural hardness. In both, the membranes were injected. These different states of the spinal marrow have been considered by some authors as indicating different degrees of inflammation.

A fact related by MM. Kerséau and Lacoste, deserves particular attention. A cow had calved without difficulty, and with no appearance of disease. In the course of the night she fell, and was unable to rise. The cow was able to move her hind limbs, and that with considerable violence, but they had lost all feeling. The remedial means which were used not producing any effect, the animal was destroyed. The lumbar portion of the spinal cord was very red on its superior part, and the fasciculi which proceeded from it were injected for the space of two inches. The lower fasciculi presented no other alteration than a

yellow tint, which was perceived through the whole course of the spinal marrow.

This case affords a beautiful illustration of the opinion of MM. Bell and Majendie respecting the functions of the superior and inferior portions of the spinal marrow.

In a stallion affected with complete loss of voluntary motion, M. Dupuy found a general softening of the spinal marrow, and especially at the dorsal region, where it assumed the form of a puriform fluid.

In the veterinary school at Toulouse a paralytic ox was destroyed during the last year. The spinal marrow was flattened and softened at the lumbar region; a false fibrous membrane, studded with tubercles and yellow concretions, covered the arachnoid, and the lumbar and sacral nerves were enveloped by a gelatiform fluid, which was found in the cellular tissue that separated every nervous fibril, and with which the neurilema itself was impregnated. This false membrane, garnished with tubercles and covering the spinal arachnoid, has not been described by any other veterinarian.

These cases comprise, so far as I am aware, all the knowledge we possess on diseases of the spinal marrow in our domestic quadrupeds, and on carefully comparing them we may observe—

1. That in domestic animals the spinal marrow is rarely altered through the whole of its course.

2. That the dorsal and lumbar regions are the parts oftenest affected.

3. That inflammation of the spinal marrow of these regions always produces palsy, more or less complete, of the abdominal members (des membras abdominaux).

4. That, in some cases, this inflammation is limited to the inferior or superior part of the spinal marrow, and that then there is loss only of feeling or of motion.

5. That sometimes animals die of palsy without any organic lesion.

6. Diseases of the spinal marrow are always serious, and often mortal.

Although the greater part of the facts which I have related have reference to the horse, they more than suffice to shew how little these diseases of that animal are known. If other proof were wanting, I should appeal to the elements of pathology with which my friend M. Vatel has enriched veterinary science, and in which he has given a very short article on inflammation of the spinal marrow, illustrating it by reference to the dog, in which it is often the consequence of inflammation of the bowels, but record-

ing not one fact relative to the horse. These circumstances induce me to hope that the observations which I am about to record may possess some interest, and may contribute to throw some light on the diagnosis and treatment of diseases of the spinal marrow.

[To be continued.]

Pulmonary Hernia in a Pig.

By M. Tausia.

[Journal Pratique, Feb. 1830.]

On the first of November last, I was sent for to a pig, aged seven or eight months, which had been gored by a cow, and which had, to use the language of the messenger, its liver hanging out of its body. The horn had penetrated into the chest, between the sixth and seventh ribs on the left side, and on a level with the point of the elbow. The anterior lobe of the left lung protruded an inch and a half. The animal had been thrown several feet above the head of the cow, had fallen on her shoulder, and thence, on the ground. Contrary to the opinion of the standers-by, who affirmed that there was no chance of saving the animal, I returned the portion of lung which protruded, passed a suture through the edges of the wound, and placed on it a compress, moistened with a solution of salt slightly alcoholized, and confined by a firm bandage.

On the morrow, when I expected to find my patient dead, he was lively, and had drunk some white water, which he had refused on the preceding evening. I then ordered some maize to be offered to him, which he greedily ate: I, however, thought proper to keep him on rather spare diet. A cicatrix was formed on the fifth day, accompanied by a swelling, of about the size of a nut; but this gradually subsided, and in fifteen days the wound was healed.

Urinary Calculi in the Ox.

By M. Jouanaud.

[Journal Pratique, May 1830.]

In the course of the year 1829, three oxen were destroyed in our slaughter-house, on account of calculous concretions. The case which I am about to relate is that of a fourth. In November last, I was desired to see an ox that could not pass its urine. It had been attended by a blacksmith, who practised cattle medi-

cine, and who had exhibited many stimulating drinks, and passed a seton through the dewlap.

Symptoms.—Cessation of rumination;—great thirst;—mouth very hot;—respiration difficult;—pulse slow;—trembling of the hind extremities;—belly swelled;—the animal lay down and rose up again continually;—it looked frequently towards its flank;—strained to void its urine;—hide-bound;—hair dry, dull-coloured, and rough; fæces small in quantity.

State of the Bladder.—To ascertain the state of the bladder, I introduced my arm into the rectum. It was distended, and situated in the fore-part of the pubic region. A slight pressure on the anterior part of the bladder, to excite the animal to urine, brought on violent colic. At the neck of the bladder I found a tumour, formed of four stones or calculi, of the size of a little pea. I attempted, in vain, to force them back again into the bladder. The ox had lost a great deal of flesh, and I advised that it should be destroyed.

On opening the abdomen, a quantity of urine was found effused in it. On the inferior and anterior part of the bladder was a little hole, through which the urine had run drop by drop. A great number of yellow or golden-coloured calculi, and of a round form, were found in the base of the bladder, and four were united at the neck. The internal membrane was red, thick, and inflamed at that part. We counted no less than 500 calculi of different sizes. The peritoneum was somewhat red; but the abdominal and thoracic viscera were in a healthy state.

The animals in which calculi are formed are usually natives of a strong and dry country; their ordinary drink is pond water; and their food, although abundant, is dry. When they are sold they are very thin, and the process of fattening is immediately commenced. May we attribute the production of calculi to this sudden change of regimen?

Reflections by M. Dupuy.—Urinary calculi in the ox are small, globular, and composed of sub-carbonate of lime. They may be arrested at the neck of the bladder, the commencement of the urethra, or the ischial curve of the penis. The only means of cure consists in cutting, and the operation will vary with the situation of the calculus.

If it be in the neck of the bladder, an incision must be made into the urethra, at its commencement, upon the ischium, and the operation will be conducted as in the horse. There will be no danger here of cutting through the upper portion of the bladder, because the neck of the bladder is much longer in the ox than in the horse.

If the calculi are at the commencement of the urethra, the

operation is simple; an *oblique* incision must be made, not exceeding the diameter of the urethra. If the incision be made parallel with the urethra that canal will roll under the instrument, and we shall think that we have opened it when we have only penetrated into the neighbouring tissues.

If the calculus be at the ischial curve of the penis an incision must be made before and above the scrotum, by which the penis may be drawn outward and downward. This organ will thus be lengthened, the curve will be effaced, and the calculus may be easily cut upon, the incision being, as before indicated, oblique.

It is to be regretted that the skilful veterinarian has not the opportunity given him, or does not avail himself of the opportunity to perform these operations, varied according to the circumstances of the case.

On the Internal Exhibition of the Chloride of Soda for the Cure of Glanders.

By M. Moiroud, *Professor at the Veterinary School at Alfort.*

[Recueil de Médecine Vétérinaire, Dec. 1829.]

About the middle of last summer I administered the chloride of soda to six horses labouring under glanders. It was given in a liquid form, consisting, at first, of two drachms dissolved in a quart of water, and the dose gradually increased to several ounces. I have carried the dose even to a pound without any bad consequence.

When the medicine had been given ten or twelve days I observed a marked amendment in all the animals. The discharge from the nose was lessened, it was whiter, less viscid, and more clotty. The change was more remarkable in the inter-maxillary lymphatic ganglions. Although they were at first large, hard, and adherent to the bone, they gradually diminished in bulk; they appeared to be detaching themselves from the surrounding tissues, and seemed as if they would disappear.

But this happy progress towards the removal of the disease was not of long duration: the symptoms regained, little by little, their former intensity, and left no hope of cure. There was, however, an exception in favour of one of the horses. It was a large fine wheel horse, about ten years old. When it was brought to the school it discharged from its right nostril a whitish, viscid, clotty matter, which, although of little consistence, strongly adhered to the sides of the nostril. The intermaxillary lymphatic ganglions on the same side were large, and formed a tumour as big as a

pullet's egg, irregular in its form, tender, and adhering to the subjacent tissues. The membrane of the nose was paler than in its natural state, and presented, where the discharge flowed, a species of granulation, and a number of little superficial ulcers placed near each other. The testicles, and particularly that on the right side, were swelled, and hard, and painful, and scarcely moveable in the scrotum.

This horse improved more decidedly than any of the others. His testicles became of their natural size; the intermaxillary ganglions disappeared; the ulcers on the membrane of the nose healed, and the nasal flux was much lessened. When he went from our infirmary there remained only the slightest oozing from the pituitary membrane, and the mere nucleus or kernel of the enlarged maxillary ganglions.

Having heard nothing of this animal since its departure, I am ignorant whether the case was confirmed. However this may be, these experiments are sufficiently conclusive, as the primary and secondary effects of one of the most powerful agents in our pharmacopeia.

They prove that the chloride of soda may be administered with impunity in doses even of sixteen ounces, and especially if we have gradually proceeded to this enormous quantity. I have, however, at the very beginning given a pound of the chloride to an old entire horse, without any other effect than that, immediately after the exhibition of the medicine, the horse seemed dull, the pulse and respiration were quickened, and the mucous membranes appeared redder. This general excitation was soon calmed. I am not, however, surprised that these animals should be able to bear the chloride of soda without the least inconvenience, when I read in the November number of the Journal général de Médecine, that a man took half a glassful daily of this medicine, for a week, without injury.

These experiments also shew that the chloride of soda gives new energy to the absorbent vessels, since it caused these chronic enlargements to disappear, which, if they had not been subject to medical treatment, would, at least, have remained stationary.

The results which almost immediately attended the exhibition of the chloride of soda ought, perhaps, to give it a place near the stimulants. Its after effects would rank it among the excitants, which particularly exercise their influence on the absorbent system, and would rather place it among the discutients. It has already merited that title in the human being from its effect in scrophulous complaints, and the observations published by Dr. Godier will induce medical men to institute other experiments on this point.

I am disposed to believe that the analogy which exists between chlorine and iodine, extends not only to the chemical properties of these two elementary bodies, but also to their medicinal effects. And it will, therefore, be convenient to place in our pharmacological tables, chlorine and its preparations by the side of iodine, and the medicines of which it forms the base.

The Effect of the Injection of certain Medicines into the Veins.

By M. Dupuy.

[Journal Pratique, June 1830.]

After having remarked that the accounts we have of the action on the quadruped, of most of the drugs used in human medicine, are either conjectural or false, or founded on doubtful observations, experiments badly conducted, with improper doses, or indications of disease most unskilfully appreciated; and that, in point of fact, the greater part of the medicaments usually resorted to are perfectly inert when administered in small doses, and dangerous when given in greater quantities, and that we are almost destitute of arms with which to contend against too many of the maladies of our patients; M. Dupuy is anxious that their effect should be ascertained when administered in some other way than by the mouth. He has, therefore, instituted a course of experiments on their power when injected into the jugular vein. The account of the commencement of these experiments is far from being so scientific as we could have wished, or as we should have expected from the Director of the veterinary school at Toulouse, but much useful information is to be obtained from it. We translate his narrative, somewhat abbreviated.

On the 23d of March, at 8 o'clock in the morning, we injected into the jugular vein of a Hungary horse, twelve years old, and which was condemned on account of glanders, six grains of tartarized antimony, dissolved in a pint of water, and at the temperature of 28 (95 Fah.) degrees. We presently observed frequent yawnings, and attempts to vomit, followed by acceleration of the pulse and of respiration, and afterwards a copious evacuation of white-coloured urine. The effect lasted only a few hours.

On the following day the same quantity was injected, and produced the same results, but an œdematous swelling, which before these injections had existed at the sheath, and extended under the abdomen, had very much diminished, and the discharge from the nostrils had increased and become bloody.

A third injection, and of the same quantity, was tried two days afterwards, and which produced convulsive movements of the muscles of all the limbs. The animal voided his urine every

minute, and this inordinate evacuation continued during several days. The œdematous swelling disappeared, but it appeared a few days afterwards, on the chest and throat. The respiration became exceedingly difficult, embarrassed, and sonorous, with violent beating at the flanks, and so continued during five days. These circumstances determined us to destroy him for anatomical purposes.

The viscera of the abdomen were in their natural state. One of the lobes of the lungs was thickened, engorged, red, friable, but did not contain any tubercle. The brain was injected, and pointed with blood in its white substance; while its grey substance was uniformly reddened. The lesions in the nasal cavities were attributable to glanders, which existed in its most advanced stage. There were ulcerations or chancres, and some tubercles not ulcerated.

Another horse, likewise glandered, but in good condition, was subjected to the same experiments, and with similar results: the injections consisted of five grains, repeated on each alternate day. He too was killed for anatomical purposes, and the only difference which appeared on dissection was that the spinal marrow was a little softened.

On the following day we injected into the jugular of another horse, a pint of alcohol, at 20 (77 Fah.) degrees. The animal soon began to stagger, and presently fell, and exhibited many of the phenomena of drunkenness. These disordered movements continued about an hour. In the mean time the pulse was hard, and the respiration frequent; the air which was expired had the smell of alcohol; the mucous membranes of the nose and the mouth were highly injected, and the various secretions augmented.

This animal presented appearances very different from those produced by the injection of the emetic tartar. The movements of the muscles were characterised by feebleness and incertitude. The limbs bent every instant under the weight of the body. The animal was without force or energy, and his occasional movements were not subjected to the dominion of the will. He appeared like a horse affected with staggers. The horse which was under the influence of the tartarized antimony exhibited rapid contractions of the limbs, violent and convulsive.

To ascertain whether, in the horse, ammonia would destroy the effects of alcohol on the system, half a pint of alcohol at 20 (77 Fah.) degrees, was injected, on the 25th of March, into the jugular of the same horse. Immediately after the injection, he was evidently under the influence of the drug; but as the quantity was small, the symptoms, although similar, were not so marked as in the former experiment: the injection, however, had not terminated before the breath was tainted with the smell of alcohol,

shewing the rapidity with which this substance traversed the lungs.

Nine grains of sub-carbonate of ammonia in water were then injected, when the indications of drunkenness immediately disappeared, and a very remarkable comatose state succeeded. The animal lay down, and continued so a long time. The horse seemed to be frequently attempting to swallow, and he sneezed often with cough. In four hours all these appearances ceased, and he ate with appetite.

This experiment was twice repeated, with similar results; but after the last injection, the breathing became exceedingly laborious, and the horse manifested symptoms of water in the chest: on applying the ear to the trachea on the side of the chest, the fluctuation of the water could be distinctly perceived. The animal died on the following day.

On opening him we found a large quantity of bloody serum effused in the chest. The pulmonary tissue was hepatized in some parts, and emphysematous in others, and there were innumerable miliary tubercles in the parenchyma. The trachea was much flattened at its entrance into the chest, and the tissue of the heart was pale, and torn with the greatest ease. The internal membrane of the right auricle and ventricle was of a deep red colour. The brain was almost fluid, the white pulpy substance was spotted with red, and the cerebellum and spinal chord were-yet more softened. The cinerititious part was of a deep brown-red colour.

[To be continued.]

Review.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

Hippodonomia; or the true Structure, Laws, and Economy of the Horse's Foot: also Podophthora, or a ruinous Defect in the Principles of the common Shoe detected and demonstrated by experiments, with a proposition for a new principle of shoeing, which abundant practice has since confirmed. By Bracy Clark, *F.L.S. Member of the Royal Institute of France, &c. &c.* Second edition, enlarged and improved.

Five parts of this able work now lie before us, and the convenient division of it into "the structure of the foot" and "the effect of shoeing" enables us, without injury to the author, to yield to the impatience of many our readers, and to give a critical analysis of the first portion of this very important publication. Mr. Bracy Clark has long been known among us as an excellent classic, a good naturalist, and a perfect devotee to his profession. His literary and his scientific acquirements have all been brought

to bear on his profession, and have shed lustre upon it; and we have been accustomed to regard him as one of the redeeming characters in our forlorn and degraded caste. His attention has been principally directed to the foot of the horse, the structure of its various parts, the principle on which all its functions are founded, and by which they are governed, and coalesced in one harmonious whole. There is no one who will deny, that he has opened new views and shed new light on many branches of this important and intricate subject; and we think we shall be enabled to prove that, notwithstanding some false conclusions, and they the result of ardent zeal in the cause of veterinary science, and an anxious desire to alleviate the sufferings of our noble patient a little too much outstripping the slow and cautious decisions of the judgment, (and we do not like our author the worse for this, although the display of a spirit of dogmatism and professional jealousy, and an attempt at professional despotism, has occasionally displeased us) there is no work on the foot of the horse that contains so much real information as this production of Mr. Bracy Clark. We are also free to confess that we do not think it has received from the veterinary public that regard to which it is entitled. The causes of this we are sorry that we shall have partially to unfold; but we have a duty to discharge, and we shall discharge it with perfect good feeling towards Mr. Bracy Clark, with a full conviction of the value of his work, with sincere pleasure that we can recommend it not merely to the perusal but to the diligent study of our readers, and with a sense of what we owe to our profession and to truth.

We will get rid of the unpleasant part of our business first.

We have two or three matters to settle with our author. In the first place, we object to the peremptory manner in which Mr. Bracy Clark's "discoveries" are again and again forced upon us. In page v of his preface he says, "if what is here advanced be true, it will be found to subvert nearly all that has been done upon the subject, and to open an almost entirely new prospect on these things." In page vi he writes, "It is with pain, however, I have to record, that now the mystery has been unfolded, and the difficulty exposed nearly 20 years, it has not been generally received and appreciated." In page vii he speaks of "the professors of the various veterinary colleges"—"by nearly of all whom he has been basely treated"—"concealing his 'discoveries' from their pupils," &c. In page 19 he boasts of seeing, "probably for the first time, what had never been seen before in the same sense of view at least;" and to pass over many other passages, he thus writes: "I confess I feel it a little hard, after making so many unquestionable discoveries, that no proposition for a reward, no expression of favour, ever reached me from the College."

All this is in very bad taste. It was not thus that the fathers

of medical science were accustomed to think and to write. There is a passage in Dr. Ent's biography of the illustrious Harvey, which we would recommend, and with no invidious meaning, to Mr. Clark's consideration. Dr. Ent had prevailed upon him to entrust to him some of his invaluable MSS. for the purpose of examination, and probable publication. "I went from him," says he, "like another Jason in possession of the golden fleece; and when I came home and perused the pieces singly, I was amazed that so vast a treasure should have been so long hidden, and that, while others with great parade exhibit to the public their stale trash, this person should seem to make so little account of his admirable observations." "Indeed," continues a later biographer, "no one appears to have possessed in a greater degree than Harvey that genuine modesty, which distinguishes the real philosopher from the superficial pretender to science."—(*Lives of British Physicians*, p. 50.)

We quote another passage from the life of Jenner. "The little arts of puffing, the mean machinery of ostentation, never once entered the heads of a Newton, a Watt, or a Jenner. For great truths there will always come a time and a place. The man who works for the benefit of his fellow creatures can afford to await the hour allotted for the full developement of his labours; and bequeaths in tranquil confidence to posterity, the reputation which he may have failed to obtain from a dominant coterie of capricious contemporaries." (p. 254.).—And one more from an historian which our classical author is well acquainted with, and containing the best description of the patriot and the sage: "Plurimum facere, et minimum ipse de se loqui."

For our own part, we hate the word "discovery." We are all fellow-labourers in a vast, neglected, but fruitful field. Should chance or industry crown the exertions of some of us with unusual success, we should hasten to throw the produce into the common granary. We should not taunt our brethren with their comparative want of success, but should trust to their good feeling and their honesty, that they will not forget the contribution which we have had the good fortune and the pleasure to make: and we shall not often trust to them in vain. Every labourer is, in the long run, estimated according to what he has done, and estimated more highly for the modesty and self-forbearance with which his contribution was made. The man who keeps all the good things to himself is little better than the drone, who cannot be roused to exertion in any cause; and he who is always taunting us with what he has done for us, rouses our vanity in opposition to our sense of obligation, and often makes us ungrateful and unjust. There are few of us who will do even that which is good upon compulsion; and the parade and folly with which certain claims to our regard are some-

times urged, engender a dislike and even disrespect to which we obstinately cling, although we find it difficult to reconcile them to our sober and candid judgment. The assertion of Bernini has good sense in it:—"Tante più di pregio reca all' opera l'umiltà dell' arstista, quanto più aggiunge di valore al numero la nullità del zero;" or, in plain English, the modesty of the author added to his work, increases its value like a cypher added to any number.

We have a more serious cause of complaint. We find, in various parts of this work, language which we cannot reconcile with the courtesy that should guide our usual intercourse, and that should, least of all, be forgotten in the discussion of a scientific question. "Plus alöes, quam mellis habet."

Take our author's attacks on Mr. Coleman:—"I am quite at a loss to guess what I have done to offend those personages, the professors of the various veterinary colleges; but by nearly all have I been treated basely, by concealing my discoveries from their pupils, and by endeavouring to traduce and misrepresent them. Professor Coleman, in a most unprovoked manner, has done this; and although he dared not make any open manly attack, which would have been quickly answered, he has to his pupils, in secret, used all the little arts of defamation."—*Preface*, p. vii.

"This egregious nonsense was not noticed in my former edition, nor would it have been in this, had I experienced the smallest attention and encouragement from this professor of the art, whose labour it has been, by *false and artful insinuation*, and sometimes pretended attacks, to misrepresent my writings to the class, and destroy the reputation of their author, and from them with the public; no doubt at times pretending to praise him, but *only the more securely to conceal his purpose under the disguise of candour and fair conduct!!*"—p. 127.

Again: "That I might expect no mercy from the smiths, whose affairs I had exposed, was quite natural; but that the veterinarians, whose cause I had laboured and gained, should be made, by *interested knavery* (!!), my greatest persecutors, was not to be believed."—p. 19.

At page 56, is the most outrageous thing of all. Mr. Clark is speaking of certain "colleges where nonsense is taught by authority and widely disseminated, and where men have hitherto really been placed officially to teach an art which they had themselves yet to learn; and where, instead of delivering their opinions with a suspicious diffidence-and wariness, from knowing their real situation, they have uttered their absurd dogmas with all the confidence of well-ascertained truths; and afterwards, though plainly confuted, have persisted, through pride, in maintaining them; and, what is worse, when the truth in the clearest evidence lay before them, instead of embracing it joyfully, they have

tried in every way to stifle her by *wilful misrepresentations*, and the abuse of those who had espoused her cause; and, next to these miserable courses, *they have added a barbarity surpassing in refined cruelty even the unsoleing, or any other cruelty ever proposed by the old farriers!!!*"

The Professor of the French school fares yet worse. "Now I am as it were rather upon French ground, I may here just observe also that *honest* Professor Girard(!), after having done me the honour of consigning my discovery of the elastic principle of the horse's foot to his countryman Lafosse, supporting his arguments *by false quotations taken from a purposely corrupted English version;*" "after having thus handsomely prepared his way, he next quietly purloins the above band into the second edition of his own work."

We could increase, "usque ad nauseam," these objectionable paragraphs; but, satis, superque.

We do protest against this "cacoëthes pugnandi," as our friend Karkeek calls it; this "running a muck" at every one—this species of literary ruffianism. It puts us in mind

> "———— ridentem dicere verum
> Quid vetat?"

of a certain hump-backed gentleman, who is often to be seen in our streets, to the great amusement of many a gaping crowd, using his immense staff with wondrous effect on the poor sconce of every unlucky wight that comes within his reach, and shouting away—

> Right foll de riddle loll,
> I'm the boy to do'em all;
> Here's the stick
> To thump Old Nick,
> If he by chance upon me call.

We must really bind Mr. Clark down in heavy penalties to keep the literary peace.

But, seriously, all this is unworthy of our author's very superior talents, and the excellent cause in which he is engaged. We say nothing of its bad policy, and of the increased opposition, mingled with a sense of injury, which it will rouse. We say nothing of the inference which the public will draw, and justly draw, that however excellent may be the anatomical and physiological detail, the doctrine founded upon them can neither consist with reason or experience, when every learned veterinarian sets his face against it; or of the question which will naturally be asked, whether discarding, as the better part of English veterinarians now do, many of the doctrines and practices of their college, they have "embraced the truth in the clearest evidence laid before them," and vindicated the claims of Mr. B. Clark, and

adopted his expansive method of shoeing: we will not, at present, enter on the consideration of this, but we will affirm, that these accusations, so intemperately urged by our author, have not the slightest foundation. They are shadowy "as the baseless fabric of a vision."

We have repeatedly heard Mr. Coleman speak in the highest terms of the value of Mr. Bracy Clark's researches. We have heard him *recommend* his work to the most careful perusal of his students. We have heard him acknowledge the truth and the importance of some of these "discoveries." He has, indeed, said so much, and in such a tone of adulation, that even we, knowing certain circumstances which had occurred, ventured to remonstrate with him. But he did not subscribe to *all* these "discoveries;" he endeavoured to prove the absurdity and impossibility of some of them; and much less did he subscribe to the conclusion which Mr. Bracy Clark drew from them. He asserted the right of private judgment, and he entreated his pupils to enquire and to judge for themselves. Was there any thing wrong in this?

It is not in human nature, that all these professors should unite in trampling on one unoffending individual. Their habits, their wishes, their interests, would induce them eagerly to extend the hand of fellowship to the man who was labouring to remove the greatest stigma on veterinary science. He who would enable them to remedy the evils most frequent in occurrence, most mysterious in their nature and seat, most obstinate in attack, that result from the iron fetter in which the foot of the horse is enclosed, and thus relieve their minds from many an anxious feeling, and their professional reputation from many a stain, would be eagerly hailed as a valued benefactor and friend. But, then, we must not have even benefits forced upon us; we must not be compelled to swear in the words of the most erudite preceptor; that which we most prize, must be rendered dearer as being the object of our freest choice; and, most especially, we must not be constantly twitted with the benefits we have received, and the gratitude we ought to express:—our gratitude must flow free and unconstrained; one demand for it, and it vanishes "into air—thin air." Here is the secret of the whole business, and we will leave this unpleasant part of our critical labour, recalling to our author's recollection the true character and pride of Harvey: "He was candid, cheerful, upright, living on terms of great harmony with his friends and brethren, and shewing no spirit of rivalry or hostility. He was as little disposed by nature to detract from the merits of others, as to make an ostentatious display of his own. The many antagonists whom the renown and the novelty of his opinions excited, were treated with modest and temperate language, frequently very different from their own; and while he refuted their arguments, he decorated them with all due praises." To this we

will add an excellent observation of our author's own: "Indeed it is high time the wretched style of declamation and abusive writing on these subjects should give way to a better taste,—that of real investigation and research, as in other objects of a scientific nature, by which alone the art can receive any useful accessions, and the horse be benefitted."—p. 67.

Mr. Bracy Clark takes great credit to himself as "the discoverer" of the elastic principle of the horse's foot. It were to be wished that in some part of his work he had precisely defined the nature and extent of this principle. We hear a great deal about the expansibility of the foot, but we have not one graphic sketch, one perfect picture of the thing. That which comes the nearest to it we find in page 26. "But before entering into a description of these different parts, we believe it will greatly facilitate our right apprehensions on the subject, if we first take into our view and consideration a most indispensable property necessary to the construction of all feet, which though of an abstract nature, is able, if duly reflected upon, to explain the mistakes and hidden mysteries that have for so many ages involved this art of shoeing, and concealed its wretched effects in almost impenetrable darkness, and which simple property every part of the hoof is formed in relation and made subservient to. I here allude to the simple principle of *elasticity*, or the condition of an elastic yielding of the hoof to every degree of impression of the weight, or of exertion of the animal brought upon it.

"This inestimable property it is that guarantees the foot from fatigue, preserves it from jar and the body from reaction and concussion, and all the injuries which a too solid resistance would have occasioned to both, and probably assisting also the animal in his advances by a return to its former figure after distention."

To this he adds, p. 18, "Any one would naturally infer that, if I was employed in making shoes to avoid the nails, it was because I saw the ill effects of the nails upon the foot.—No such thing: I had at this period no distinct apprehension of it; and it was to avoid the use of shoeing smiths and their mal-practices, and in order that every man might be, or by his servant at least, his own shoer—so near may we be to a thing, and not perceive it. And when the thought first came over me, that it was the resistance of the nails that caused all this mischief, it was accompanied by an involuntary suffusion of countenance that I shall never forget, from feeling that I saw, probably for the first time, what had never been seen before in the same sense of view at least; and the feeling was immediately accompanied with a happy assurance that the evil was then truly seen, and that it would be ultimately removed."

This then is the sum of Mr. Bracy Clark's discovery, that the foot is formed on an elastic principle, and that the resistance of the nails, by means of which the shoe is attached to the foot, prevents the developement of this principle, and entails on the foot various evils.

We might object a little to the accuracy of Mr. B. Clark's definition, if definition it be, of elasticity; or rather we object that there is no strict definition of the principle, no graphic description of its application, or the disturbance of its application, but a great deal said prettily, and well, and yet loosely and unconnectedly, about it. Now we do object to this in a scientific work, and which is, and deservedly, the basis of the author's fame.

Elasticity is that principle by which the particles of bodies yield to a certain extent when force is applied, but immediately regain their natural position when the disturbing force is withdrawn. It is this latter part of the definition which constitutes the elasticity of the body; the former is the mere partial disturbance, or separation of the parts. We see this principle most beautifully displayed in the foot of the horse. That organ is the very perfection of elasticity. The strength of the horny and the sensible lamellæ is accurately adjusted to the weight which is thrown upon them; but when, in the action of the horse, some velocity is added to that weight, and the momentum or force which acts upon them is increased, they elongate—and in consequence of that elongation the coffin bone descends, and it presses upon the concave sole, and that yields; and its arch becomes flattened, and, becoming flattened, requires a wider base, *and the foot is expanded:* and so when the frog, in the descent of the foot, receives a certain degree of pressure, it acts upon the sensible frog which it covers, and squeezes it, or would squeeze it, into smaller compass; but although soft and yielding, it is incompressible, and it resists downwards, and forces apart the concavities of the horny frog, and it rises upward and forces asunder the cartilages, and thus the expansion of the heel is assisted below, and produced above. This is an exquisite mechanism: the gradual resisting prolongation of the lamellæ, and the gradual yielding and flattening of the arch of the sole, and to a lesser degree the gradual rising and pressure of the sensible frog, lessen and neutralize and destroy that concussion which must otherwise have been speedily ruinous to the animal, and expand the various parts of the foot.

There is, however, nothing of *elasticity* here; it is the mere alteration of position. But now comes the true principle of elasticity, which Mr. Bracy Clark does not appear to have observed with perfect accuracy:—the power ceases to act; the weight of the horse no longer violently presses; and the lamellæ

return to their natural length, and the coffin bone rises to its former situation, and the sole again ascends, and the middle of the foot contracts, and the horny frog resumes its folded state, and the cartilages return to their place, and every thing is ready for renewed action. This is the *elasticity* of the business. We can likewise readily see how the resistance of the nails shall prevent the lower expansion of the foot; and if the base of the foot cannot widen, the sole cannot descend, and the laminæ cannot elongate, and the most important functions of the foot are crippled, and injury must necessarily ensue.

Now we do allow, that notwithstanding our complaint of a little looseness and want of order, Mr. B. Clark has put these things in a clearer point of view than any preceding author had done, nay, we will say, than any succeeding author has done. He has prepared the way for more accurate and comprehensive views of the structure and connexion and functions of the different parts of the foot, than would have existed had not his treatise been composed. He has and he deserves our gratitude, and we do think that the merit of his work has not been sufficiently appreciated: but, then, he must not claim too much. It is that assumption of a false claim which has done him and his work so much injury. He is not the *discoverer* of the elasticity, we would rather say the *expansibility* of the foot, nor of the evils which result from the resistance of the nails; and he must not so readily and so rancorously abuse those who cannot allow him all that he demands. The date of Mr. Clark's first publication is, we believe, 1809.

In 1801, Mr. R. Lawrence published his elegant work on "The Structure of the Horse." At page 42 we find this passage:—"The quarters and heels are naturally capable of *an elastic expansion when the hoof is not shod.* This elasticity contributes to facilitate the circulation of the blood through the foot, to furnish a spring to the action of the leg, and to lessen concussion." Five years before, Mr. Freeman's splendid work appeared; it contains these decisive passages:—"These returns, inwards and forwards, take the name of the bars, or binders; they enclose these extremities of the cartilages in the same way as the quarters cover the heels, *and equally admit of expansion and contraction;* so that, when a horse is in full gallop, there is a repeated alternation of these opposite actions. *For when his feet strike the ground, the elasticity of the bars aids the pressure of the bones in the expansion of the heels, which are again immediately contracted by the quarters the moment his heels are again in the air.*"

At page 101 is, if possible, a more conclusive passage:—"A horse may be said to have a foot half cloven, that is to say, a foot *having the power of expansion at the clefts of the heel, but confined at the toe.*" Can language be plainer than this? or can

the most luminous paragraph in Mr. Clark's book more clearly state that action and function for which he contends?

In 1802, the first edition of Mr. Blaine's Veterinary Outlines appeared: we extract the following, vol. ii, p. 388:—"The frog acts upon the cartilages, which, directing the future growth of the crust, widens and expands it; and the heels of the frogs, being placed behind the coffin bone, and hence, as Mr. Coleman observes, in contact with moveable, elastic, and not fixed substances, by this means a lever is formed, and an elastic spring given to the animal. *The bars, likewise, by their elasticity, aid in this general spring afforded the parts, and hence widen the heels in their action as well as prevent their approximation in a state of rest.*"

As early as the year 1770, we find in that excellent book of Mr. James Clark, and which contains the marrow of almost every thing which has been since said about the foot, the following important passage, 3d edit. p. 36:—" In the middle of the frog is a longitudinal cleft or opening, by which the heels have a small degree of contraction and expansion at every tread which the horse makes upon the ground;" and in his Preface, p. 15, he shews us how deeply he had thought of this when he says,—" It must therefore be allowed that it is of much greater importance to endeavour to prevent those diseases from taking place, and thereby preserving horses sound and active in their feet, by treating them in that manner which nature points out as most proper and necessary, than to risk their being rendered lame by following those opposite practices which are exceedingly detrimental to the feet; not only by imposing an unnatural shape upon the hoofs, by which the horse is rendered lame, but by opposing and thwarting the natural functions which are necessary to preserve the feet in a sound state."

One last quotation from the gentleman on whom Mr. Clark, and we think not with justice, lavishes his principal abuse. It was published eleven years before Mr. Clark's work. (Coleman on the Foot, vol. ii, p. 85): "When the foot is placed on the ground, the laminæ are put on the stretch, and to act as a spring, they must, in some degree, elongate. The laminæ, however, unless the horny sole at the same time descends, cannot elongate; for if the horny sole was a fixed point, or made of inelastic materials, so as not to yield to the pressure of the weight on the coffin bone, then the laminæ could not be stretched or put into motion. However elastic the laminæ, the coffin bone and the sensible sole would be resisted in their descent by the inelastic sole, and as firmly fixed as if the laminæ had been made of bone or any other inelastic substance. In order that the functions of these elastic organs should be duly performed, it must follow, that the coffin bone, the sensible sole, and the horny sole, should descend in the same proportion as the laminæ elongate, and thus the combined action of these parts prevents concussion of the whole animal, and of the foot in particular." Although this is expressed in a round-about way, it is sufficient to convince us that Mr. Coleman was not ignorant of the elastic principle of the foot of the horse; and if he had added, what doubtless passed in his mind, and an inference which a child would have drawn, that *while the sole descended the base of the foot must widen*, we should have had Mr. Bracy Clark's principle of elasticity and expansibility, so far as we understand it. We have not room at present for more; and must reserve many additional observations for an early number.

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ANATOMY OF THE HORSE.

[Continued from page 485.]

5.—POSTERIOR HUMERAL REGION,

COMPREHENDS a mass of muscle, at the back of the humerus, of considerable bulk, and partially divisible into three portions; on which accounts, and from its having different attachments, it is found most convenient, and indeed is most usual, to consider the muscle (which altogether has the name of TRICEPS EXTENSOR BRACHII) under three distinct heads or divisions. These heads are distinguished by epithets correspondent to their magnitude and importance.

TRICEPS EXTENSOR BRACHII.

Having three divisions or *heads*: the first is the

CAPUT MAGNUM.—*Scapulo-olecranius.*

Situation.—Infero-posterior part of the shoulder: occupying the angular interspace between the scapula and humerus.

Form.—Broad; thick; triangular; flattened.

Attachment.—Superiorly, to the whole of the posterior costa of the scapula: inferiorly, to the superior and posterior parts of the olecranon, and postero-internal part of the brachial faschia, immediately below that process.

Direction.—Downwards and backwards; converging towards the olecranon.

Relations—Externally, with the faschia and skin, teres minor, and postea spinatus; internally, with the pectorales, magnus et parvus, and the teres major: anteriorly and inferiorly, with the caput medium and humerus; superiorly and posteriorly with the scapula, and the faschia and skin.

Structure.—Even this large head itself may be dissected into two portions (to which Bourgelat and Girard have given distinct names): one is long, thin, and flattened, and aponeurotic at its attachments, but fleshy in its middle, and lies along the postero-internal border of the other, which constitutes the chief bulk of the entire muscle.

The scapular attachments are fleshy upon the outer side, tendinous upon the inner. The surfaces are in places aponeurotic. The belly or middle part is fleshy, with the exception of a thick tendinous intersection, which, together with the aponeurosis, ends in a broad, thick, flattened tendon, that is implanted into the olecranon.

CAPUT MEDIUM.—*Humero-olecranius Externus.*

Situation.—Infero-external part of the shoulder.

Form.—Oblong: flattened.

Attachment.—Superiorly, from the outer side of the neck, and from the ridge extending from the outer tubercle upon the body of the humerus: inferiorly, to the postero-outer parts of the olecranon.

Direction.—From above, downwards; and from before backwards.

Relations.—Externally, with the postea-spinatus, teres minor, and faschia and skin; internally, with the humeralis externus and outer condyle of the humerus: anteriorly, with the faschia and skin; posteriorly, with the caput magnum.

Structure.—Superior attachment, both fleshy and tendinous. Middle part, fleshy. Inferior attachment, fleshy and tendinous, and inseparably united in one common tendon with the caput magnum.

CAPUT PARVUM.—*Humero olecranius Internus.*

Situation.—Infero-internal part of the shoulder.

Form.—Long and slender; and flattened.

Attachment.—Superiorly, to the inner side of the body of the humerus, just above its middle: inferiorly, to the inner part of the apex of the olecranon.

Relations.—Externally, with the caput magnum, teres major, and latissimus dorsi; internally, with the humerus.

Structure.—Superior attachments, tendinous and fleshy; surfaces, slightly aponeurotic; inferior attachment by a thin flattened tendon.

Action of the Three Heads (considered as a single muscle,)—To extend the arm.

ANCONEUS.—*Epicondylo-olecranius.*

Situation.—Occupying the hollow space behind, between the condyles of the humerus.

Form.—Short, thick, triangular: base turned downward.

Attachment.—Superiorly, to the infero-posterior parts of the body of the humerus: inferiorly, to the antero-external part of the olecranon and to the capsular ligament of the elbow joint.

Relations.—Posteriorly, with the triceps; anteriorly, with the humerus and the elbow joint.

Action.—To assist the triceps in the extension of the elbow joint; and to prevent the capsular ligament from being pinched between the bones during that action.

MUSCLES OF THE ARM AND FORE LEG.

These muscles may be classed into two sets: those which extend the leg; viz. the *Extensors;* and those that bend it; viz. the *Flexors.* They are both included within and firmly bound by the brachial faschia; from which some fibres belonging to the superficial muscles derive their origin.

1.—ANTERIOR BRACHIO-CRURAL REGION.

This region includes all the extensors. The mass of them forms the prominence so perceptible upon the front of a well-formed arm. Collectively considered, they possess much less power than the flexors.

EXTENSOR METACARPI MAGNUS.—*Epitrochlo-premetacarpeus.*

Situation.—Fore part of the arm.

Figure.—Pyramidal: rounded superiorly; flattened inferiorly.

Attachment.—Superiorly, to the outer and fore parts of the external condyle of the humerus; and also to the capsular ligament: inferiorly, to the antero-superior part of the os metacarpi magnum.

Relations.—Anteriorly, with the faschia and skin; posteriorly, with the radius: externally, with the extensores pedis et obliquus; internally, with the flexor brachii and the skin. The superficial brachial vein ascends along its inner side.

Structure.—Its superior attachment is principally fleshy; though it possesses some tendinous fibres which are inseparably united with the tendon of the next (to be described) muscle. The middle part has but few tendinous intersections. The surfaces are partly aponeurotic. Below the middle of its length arises a tendon, round at its origin, but gradually growing flat,

and expanding in breadth towards its termination: it passes, at the knee, under the anterior annular ligament, within a synovial sheath, furnished with a bursa mucosa.

Action.—To extend the leg.

EXTENSOR PEDIS.—*Epitrochlo-prephalangeus.*

Situation.—Fore and outer part of the arm.

Form.—Elongated; pyramidal: more flattened than, but not so thick as the preceding muscle.

Attachment.—Superiorly, to the fore part of the external condyle of the humerus, to the outer part of the head and supero-external part of the body of the radius, and also to the capsular ligament of the elbow joint: inferiorly, to the front parts of the lower end of the os suffraginis, the os coronæ, and the coronal process of the os pedis; adhering in its course to the capsular ligament of the fetlock joint.

Relations.—Anteriorly, with the faschia and skin: posteriorly, with the extensor obliquus and the radius: internally, with the preceding muscle: postero-externally, with the extensor suffraginis. Behind it, between the bone and it, run branches from the spiral artery and nerve.

Structure.—The superior attachment is both tendinous and fleshy: that portion which is attached to the radius consists of a broad, thin, pale, fleshy fasciculus, running to unite itself to the main body of the muscle. It has but one or two, and those but partial, tendinous intersections. Its surfaces are aponeurotic. It becomes a single tendon nearly about the same place as the former muscle; but the tendon is smaller. It pursues its course under the annular ligament, through a cellular sheath furnished with a bursa; and continues down the leg, closely attached by cellular membrane to the cannon bone, broadening somewhat in its course, but widely expanding after it has passed over the fetlock; and in its expansion so completely covering and adhering to the pastern joints, that it seems to them, in front, to serve the purpose of capsular ligament.

Action.—To extend the foot and pasterns; and at the same time to assist in the extension of the knee.

EXTENSOR SUFFRAGINIS.—*Radialis-prephalangeus.*

Situation.—Postero-external part of the arm.

Form.—Narrow; thin; elongated.

Attachment.—Superiorly, to the postero-external and superior parts of the radius, and to the posterior (sharpened) border of the ulna: inferiorly, to the supero-anterior part of the os suffraginis, adhering to the capsular ligament of the fetlock joint.

Relations.—Anteriorly, with the preceding muscle and the extensor obliquus; posteriorly, with the flexores, perforans et perforatus; internally, with the ulna and radius; externally, with the faschia and skin.

Direction.—Half-penniform: from above downwards, and from behind forwards.

Structure.—It may be denominated a *muscular slip;* whose superior attachments are tendinous and fleshy; anterior part aponeurotic; and posterior partly tendinous, but mostly fleshy. A little higher than the knee, it detaches a slender flattened tendon, which passes through a sheath, under the external lateral ligament, and then inclines forwards, and unites about half-way down the leg with the long extensor ligament.

Action.—To assist in extending the fetlock, and also, in some degree, the knee; and to tighten the extensor ligament.

EXTENSOR METACARPI OBLIQUUS VEL PARVUS.—*Radialis-metacarpeus obliquus.*

Situation.—Deep-seated: infero-anterior parts of the arm.

Figure.—Triangular; flattened; somewhat curved.

Attachment.—Superiorly, to the outer and infero-anterior parts of the body of the radius: inferiorly, to the supero-anterior part of the os metacarpi internum.

Relations.—Anteriorly, with the extensor pedis, faschia and skin; posteriorly, with the radius, extensor metacarpi, and knee joint: to the outer side, with the preceding muscle; to the inner, with the extensor metacarpi.

Direction.—Oblique and inclined to a curve, from above downwards, and from behind forwards.

Structure.—It consists of a small fleshy slip beginning in a pyramidal point, but growing broader as it descends, and ending in a tendon, which crosses under the extensor pedis, but over the extensor metacarpi. Its superior attachments are principally fleshy; its belly is palish, and aponeurotic upon its front surface. Its tendon is slender and flattened, arising about midway down the arm, crosses just above the knee within a sheath to the inner side, and at its termination expands and becomes confounded with the general fibrous covering of the knee joint.

Action.—To maintain the tendon of the extensor metacarpi in its place during action: it will also have some effect in extending the leg.

[To be continued.]

Communications and Cases.

Ars veterinaria post medicinam secunda est.—VEGETIUS.

ON THE ARMY VETERINARY DEPARTMENT.

By another Army Veterinarian.

Carpe diem.

I QUITE coincide in every thing that has been said by "An Army Veterinarian," as communicated in the last Number of your useful periodical. It must be owned there is, unfortunately, but too much truth in all these observations.

We may have flattered ourselves, at the commencement of our career, that because ours was a young, it must therefore be a rising profession. One cannot, however, help seeing, that of late years, at least, it has been losing ground greatly in the estimation of the world: as well in the army as every where else; and in the army principally, I have no doubt, from the causes so ably pointed out in the excellent and well-written paper to which I allude.

The commission, it has been agreed on all sides, has stamped the pursuit of veterinary science with a degree of respectability and importance; and its utility in the regiments of cavalry has long been acknowledged; nay, I may add with confidence, is still undisputed. Is it not, then, our own faults that we are not respected? I have heard experienced commanding officers say, that "there is nothing, perhaps, more difficult to get than a good veterinary surgeon, and no officer of the regimental staff more essential." Is it not, therefore, I repeat, entirely our own faults if we are not respected? Every one, in fact, has to establish a character after he joins a regiment, where integrity and uprightness of conduct will always be appreciated, or the contrary cannot fail to be known; and where his degree of professional abilities, as well as his other attainments, will be pretty accurately ascertained and judged of.

How careful, then, and particular ought the College to be, in recommending none but fit and well qualified persons to fill these appointments, seeing that the respectability of the profession depends so much upon *them?* But what is the fact? Can it be denied, that a number of improper subjects have, from time to time, found their way into these employments? This is so notorious that I have heard it complained of by many of the respectable resident practitioners of our own cast; by men settled

and located in the places where regiments are usually quartered; and who have thus had an opportunity of seeing the various corps of cavalry, with their veterinary surgeons, pass, as it were, before them in yearly succession. I have, I say, heard many of those, who may be considered competent witnesses, declare, they have seen such men attached to regiments of cavalry as have made them feel ashamed of their profession—such men as they could not even think of introducing to their own families!

Can we, then, wonder that this pursuit, which from its interesting utility and importance ought still to be rising in respectability, has now fallen into comparative neglect and discredit, even in the army? This, it must be confessed, is much to be regretted; but, for the *cause*, we must look to the *fountain head. If the well be unclean, how can it be expected the water will flow pure? If the stream arise muddy at its source, so will it continue to run in its course.* These are the natural consequences of a corrupt or a bad system; and this must be amended. The Augean stable must be cleansed.

That the veterinary appointment in the cavalry has, in fact, fallen into comparative neglect and insignificance (for every thing is by comparison), we may infer from the late warrant, "regulating and amending the pay and allowances of officers," dated 30th July of the present year, where we find his Majesty has been graciously pleased "to improve the pay and advantages" of several classes of officers, and very materially those of the medical department of the army, most condescendingly expressing a wish to reward the officers of each class "in proportion to their length of actual service respectively." Unfortunately, however, for us on this occasion, we appear to have had nobody to advocate our cause—no one to urge our just claims to some further consideration; for we not only derive no advantage from the new order of things, but, I am prepared to shew, we are thereby left in a much worse condition than we were before; yet I can scarcely think this was intended.

I find no fault with our not being allowed the option, as heretofore, of retiring on half-pay at twenty years' service; for it is now worded, "unless five of these years have been passed abroad." But when a man has spent so much of his time, I may say, *all the best years of his life*, in the service, he ought, surely, to expect a comfortable retired allowance. In this respect, I repeat, I have no hesitation in saying, the late regulations have placed us in a far worse situation than we were before. A man can only be induced to devote his whole life and attention to the service from the expectation of some reward—some bonus held

out to him in the end. Now, it should be observed, we have no promotion to expect, as in the regular medical department, where a man may rise in rank or pay equal to a general officer. We have nothing of this kind to look to; we are placed at the bottom of the list at the commencement, and there we are fated to remain to the end of the chapter: a graduated increase of pay, and a decent retired allowance, are, therefore, the only *boons* we have to look forward to; these are the only beacons we can expect to find to light and to cheer us on our solitary way.

By the former regulation, a veterinary surgeon had not only the unqualified option of retiring on his half-pay at twenty years' service, but after thirty years he was allowed to retire upon any portion of his pay that the Treasury Board might think fit, "not less than twelve shillings a day." This left a discretionary two shillings for particular cases, either for those of ill health, or as a reward for meritorious service. A retired allowance, therefore, of twelve shillings per diem was, according to the former warrant, the minimum of reward for thirty years' service; whilst, according to the new regulation, it will be found to be the maximum. For this appears to make no reserve for cases of ill health, or for special circumstances of merit.

But, according to the new warrant, a veterinary surgeon has the liberty to retire at twenty-five years' service, with the addition of one shilling to his half-pay; that is to say, upon eight shillings a day. Now who, I would ask, can think this a liberal reward for a quarter of a century spent in close application to a serious duty, or be inclined to retire upon this pittance, when, by sacrificing five more years of life, now most likely scarcely fit for any thing else, he will be entitled to receive twelve shillings a day? Whereas a paymaster, an officer placed exactly in the same predicament as ourselves, with regard to promotion, has permission to retire, after twenty years' service, upon ten shillings, or has his pay increased, at the end of that period, to twenty shillings a day. I mean not to under-rate the services of a paymaster; but I cannot help thinking that this, in a comparative point of view, is scarcely fair. And as to the quantum of duty to be performed: the continued application, and the attention required, his appointment, it must be confessed, is a perfect sinecure when compared with ours.

Thus, then, I say, it does appear evident from the late alterations in the warrant "regulating and consolidating the pay and allowance of officers," that we have absolutely lost ground; that we have sunk and descended in the scale, and that, too, in both a positive and comparative point of view.

I do not mean to impute blame to those who had the drawing

up of the new code, much less to accuse these honourable persons of partiality: the fact, perhaps, is, that we had nobody to speak for us at the time. We are, indeed, an unfortunate class of men: we have no head, nor any one to advocate our interests on such occasions. I would fain believe we have not deserved such neglect. For although there may have been many individuals admitted into the service who have done but little credit to their calling, yet, as a body, I hope we may still claim, and fairly claim, a higher consideration; that we may still vindicate the just expectations entertained of us, and be enabled to uphold the respectability of our profession.

I perfectly agree with the concluding remarks of your Correspondent, whom I am proud to call my *confrère*, that "no department has been left so much in the back-ground (important as it has long been acknowledged to be) as the veterinary department of the army; and principally for want of a head; or, at least, such a head as would take an interest in promoting it to the highest degree of utility and perfection;" and, let me add, who would take care to admit none but fit and properly qualified persons into the service; who would pursue a course unbiassed by patronage or selfish considerations; who would fulfil the just expectations of the profession and the world; in short, who would do justice to it. Then, indeed, and not till then, will the words of Vegetius, which you have taken for your motto, apply to us poor Vets. of the nineteenth century. At present, I cannot help saying, I feel the late alterations and regulations in the army have thrown us back to a vast and most humiliating distance from the heel of the regular practitioner of medicine; relatively with whom, I repeat, we have lost much ground,—have been lowered and degraded in the scale.

We may not yet have altogether fulfilled the high expectations of the world; but this, at least, is not the way to make us better. Every thing will thrive in proportion only as it is stimulated and encouraged. To starve and depress is, therefore, to check the growth, if not entirely to destroy, this interesting branch of medical science.

For my own part, I must say, that, were my time to come over again, seeing what I now see, I should scarcely, I think, be induced to sacrifice five-and-twenty of the best years of my life to the consideration of a scanty pittance of eight shillings a day, especially when I constantly see men who I think not at all my superiors either in utility or attainment obtaining as a reward for the same period of service perhaps double that ratio. It must be confessed this is a sad *finâle*.

But I must express a hope of still seeing the army veterinary

department placed upon a better footing; of seeing its condition yet greatly ameliorated and improved; for I am confident, if all this were represented in its right light and in the proper quarter, it would be "amended."

I shall only say more, that I hope this communication may be found worthy of being placed, as a corroborative adjunct, by the side of that of my talented comrade; and that our united efforts may be productive of some good to our degraded cast, is the ardent wish of ANOTHER ARMY VETERINARIAN.

DEFENCE OF PRIVATE VETERINARY PRACTITIONERS, AND ON VETERINARY REFORM.

To the Editors of "The Veterinarian."

"Proprium est stultitiæ aliorum vitia cernere,
Oblivisci suorum."

Gentlemen,

IT was not my intention to have entered upon a controversial subject in your valuable pages, as I presume that that was not the original intention of your journal, but to form a public channel for each member of the veterinary profession, however humble, to add his share of knowledge to the general stock. I feel myself bound, however, to refute the unjust imputations on country veterinarians generally, by the Army Correspondent in your last Number. I am at a loss to find language sufficiently strong to express my feelings upon such a document; and particularly so, as that gentleman wishes it to be understood, that nearly all the respectability of our humble profession *is due to the rank of the army veterinary department.* Really, gentlemen, I think such an assumption would not have been made by an intelligent person; and in my humble opinion it is incompatible with respectability and gentlemanly conduct. Probably there are some veterinary surgeons gazetted to different regiments of cavalry, and others practising the art in the country, whose early circumstances prevented them from receiving a classical education; but permit me to ask, whether it can be proved that such persons are not as much interested in the future welfare of the veterinary profession as those to whom fortune has been more favourable? But are such individuals to be denied the benefit of a public institution, or treated with contempt because their circumstances and education exclude them from the higher ranks of society; or is Mr. Coleman to be branded with infamy

because he has not a discretionary power of rejecting those who may be obnoxious to the interests of the profession? You know, gentlemen, that Mr. Coleman cannot reject any individual who may tender the entrance fee at the Royal Veterinary Co lege, provided that such person be at a proper age, (which proviso, by the bye, I allow has not been strictly adhered to). To what extent the *Veterinary-surgeon-general* may have *pushed* improper persons into the army (as veterinary surgeons), I will not presume to say; or how far that gentleman may be culpable for doing so. But I am inclined to believe, that there are colonels who have not only rejected such recommendations, but have even refused their admission into their respective corps, and have given the preference to such as were most conversant with horses. Can a contemplative mind conceive that our worthy Professor makes some arrangement with his pupils, previously to their entering the Veterinary College, respecting an army appointment, merely for twenty guineas; and by such means encourages men of low birth and education, in order to deter others of more exalted fortunes from becoming members of the veterinary profession, or that he wishes to deny merit in men of science and education?

With respect to a *diploma*, in one point of view, it is not of much value to a country practitioner, owing to the deficiency of the existing laws of our national institution; neither do I think its value would be much enhanced even if the signature of your Army Correspondent, or any other veterinarian, were attached to it, except some legislative enactment is procured, in order to protect those veterinarians who are in possession of such a *worthless document* against those who have not dared to present themselves before the honourable board of examiners, or those still more unworthy individuals who have been rejected by that committee. But to the army veterinarian such a testimonial is indispensable, as he holds his commission by virtue of that very *document;* whereas, those who are not in possession of a diploma, are not considered worthy the recommendation of Mr. Coleman or any other influential gentleman who may interest himself in the appointment of a proper veterinary officer to regiments of cavalry. Permit me, therefore, to appeal to the good sense of the profession generally, whether such officers are not infinitely bound in gratitude to those gentlemen who have been instrumental in procuring *the King's commission, which has stamped them, at least, with the name of respectability,* and thereby exalted them (in the opinion of your Correspondent) far above the more humble country veterinarian. If such a declaration is not sufficient to rouse my professional brethren from

their lethargy to a just sense of the degradation into which we are fallen, I feel convinced that no arguments of mine can;

> "For I have neither wit, nor words, nor worth,
> Action, nor utterance, nor the power of speech,
> To stir men's blood."

Various plans of veterinary reform have been offered, through the medium of your journal, for the consideration of the members of our neglected, insulted, and degraded profession; neglected by those who ought to have been its guardians; insulted by those who conceive that we are usurping their rights; and I fear, in many instances, degraded by those who have assumed the name of veterinary surgeons; who, in my humble opinion, ought not to have been considered members of the profession. As regards a college of veterinary surgeons, I think no one can deny its utility; but I fear its practicability, at the present juncture, when every part of public expenditure calls for economy and retrenchment. Therefore I am of opinion, that we should exert ourselves in order to make the Royal Veterinary College what it ought to be, and what its original founders intended it should be—a school in which the anatomy, physiology, pathology, &c. &c. of all our domestic animals should be taught, and practised upon scientific principles; also, the period of residence for each pupil within the walls of the College should be stipulated by a legislative enactment; and at the end of that period he should undergo the proper ordeal to obtain his *diploma*, and without such a testimonial not be allowed to practise the art without subjecting himself to a severe penalty.

This, gentlemen, in my opinion, cannot be accomplished by the anonymous communications of those persons who in your valuable miscellany malign each other, and by such means weaken the good cause which they espouse, but by such as will tend to establish that harmony so "devoutly to be wished." The plan which I think most likely to succeed is, to call a public meeting, in London, of passed veterinary surgeons. Some member or members of the profession should attend the meeting, provided with such resolutions as are calculated to rescue our art from its present degraded state, and ultimately lead to such legislative enactments as may raise it to its deserved respectability. A committee should also be appointed to forward a copy of the resolutions to every passed veterinarian in the country, stating by what means the expenses of such an act are to be defrayed, and soliciting their support of such resolutions. An answer should also be requested, in order that we may ascertain to what extent we can *harmonize and amalgamate* in a cause which would be calculated to benefit the veterinary profession,

and to protect that part of agricultural property which comes under our treatment; thereby raising ourselves in public estimation: we shall, by such means, thwart those gentlemen who have refused our admission to a seat at the examiners' board, for which, I think, there are some among us who are fully competent, and who would not betray the confidence which is reposed in that committee; nay, they have even refused us that privilege which is accessible to the very lowest of the low.

Now, my professional brethren, let me entreat you not to exult in superiority of rank or education; but rather exert yourselves to stimulate the inactive; look upon one another as professional brothers, and let no jealousy ever disturb that union which I hope, ere long, to see firmly established; for it is union among ourselves which will teach those gentlemen who govern our national institution, that

> "Power usurped,
> Is weakness when opposed; conscious of wrong,
> 'Tis pusillanimous and prone to flight."

I will conclude this humble address by saying, that I shall be happy to make every exertion on my part, if such exertion will tend, in the least degree, to procure

> "All that the contest calls for; spirit, strength,
> The scorn of danger, and united hearts."

I am, Gentlemen, your's respectfully,

SAMUEL BROWN.

Melton-Mowbray, Sept. 16th, 1830.

ON THE ESTABLISHMENT OF A COLLEGE OF VETERINARY SURGEONS.

To the Editors of "The Veterinarian."

Gentlemen,

I HAVE just read, with a high degree of gratification, the leading article, by "An old Veterinary Surgeon," in your Number for September; allow me to congratulate you, and the profession at large, upon the rapid strides we are making from the influence of that cloud of ignorance, and degradation, and contumely, by which we have been too long overshadowed, and which is now fast dispelling under the united power of intellect, and unanimity, and firmness.

The substance of "An old Veterinary Surgeon's" communica-

tion, and the plan he has proposed, have long had a place in my mind. I have long thought that the most direct road to the improvement of our profession, and, consequently, the advancement of its respectability, was to establish a college of veterinary surgeons, chartered by government, and similar in its principles to its sister institution, the college of human surgeons. Let the examining committee of that college alone have the power and authority to confer upon the student a certificate or diploma; for they only, as veterinary surgeons, can form an adequate judgment of the qualifications of each candidate. (I do not wish it to be understood that I consider a knowledge of the general principles of medicine and of chemistry either useless or unnecessary; on the contrary, it is indispensable, because I know that without that knowledge no veterinary surgeon can practise with honour or pleasure to himself.) By these means we should be freed from the host of "grooms and coachmen, porters and whippers-in," who are annually sent forth, with the sanction of a national institution, under the patronage of royalty, to cut and drench, according to the most approved formulæ of ignorance and conceit, all the unfortunate animals which may be placed under their superintendence; and we should not have among us so many men totally devoid of that education without which no one has any claim to the title and respect due to a gentleman: we should assume our proper station in society, and be looked upon with respect; and the name of veterinary surgeon, instead of a reproach, would be an honour. Surely, when the legislature is told of our degraded and sunken condition, and of the thousands of animals which are benefitted or deteriorated by our skill or our ignorance, and of the important part of the national wealth placed, in a manner, under our care; and when it is told of the corrupt and baneful system of education which has so long excluded us from our proper and natural rank and consideration in the country, I am confident it will not be backward in manifesting an interest in our prosperity. I do not imagine it will be a difficult task to induce an influential member of the legislative body to lay our case before Parliament, and state all our grievances. There are many of those members who have long exerted themselves for the advancement of knowledge, who have long seen that the happiness of a people depends greatly upon their intelligence, and their freedom from superstition and ignorance; and amongst such men there surely are some who would readily undertake the cause of an oppressed and betrayed profession.

It would ill become me to make many remarks in detail; but I cannot refrain from stating, that I think no time ought to be lost in drawing up a memorial, and obtaining thereto the signatures

of as many veterinary surgeons as possible: then let it be placed in the hands of an efficient senator; and from that moment we may date the commencement of our gradual emancipation from the trammels which confine and gall us.

With many expressions of gratitude to you for the prominent part you have taken in the endeavours to raise the veterinary profession from its present degraded state,

I remain, Gentlemen,

Your most humble servant,

W. SIMPSON.

Lancaster, Sept. 2, 1830.

STRANGLES FOLLOWING CASTRATION.

To the Editors of "The Veterinarian."

Gentlemen,

SHOULD you consider the following cases worthy of insertion in your valuable publication, you are welcome to make what use of them you may deem fit. Wishing success to your work,

I am, Gentlemen, your's, &c.

JOHN LEE, V. S.

Sleaford, Lincolnshire.

July 19*th*, 1830.—A blood colt, belonging to H. Haudly, Esq. of Culverthorp Hall, Lincolnshire, immediately after being castrated, was attacked with strangles, accompanied by ulceration of the scrotum, and general œdema and debility. The groom had been trying his skill in *farriering* him for a month, his master being in town, and who on his returning sent immediately for me.

I found his pulse between 60 and 70; appetite lost; legs much swelled; penis and scrotum much enlarged; great debility, and but little discharge from the nostrils. I applied fomentations and stimulating applications to the scrotum, and gave him a diuretic ball. The next day (he remaining much in the same state) I gave him ℥vj of liquor ammoniæ acetatis, and a bolus composed of ginger, gentian, digitalis, and com. turpentine. I dilated the opening in the scrotum, and applied fomentations and stimulating applications, as before. The same course of treatment was pursued for seven days, and the colt appeared to be recovered. On the eighth day he again lost his appetite, and a large tumour appeared to be forming on the inside of his thigh, near to the scrotum. I directed it to be fomented, and resumed his former medical treatment; and in two days from this time I discharged with a lancet upwards of

two quarts of pus, which flowed through the abdominal ring. The colt regained his appetite, and in a few days perfectly recovered.

RE-UNION OF THE EXTENSOR TENDON OF THE HIND FOOT AFTER DIVISION.

By the same.

July 21*st*, 1830.—A gelding, aged four years, intended for hunting, belonging to James Brown, Esq. of Quarrington, near Sleaford; caught his near hind leg in an iron wheel belonging to an implement used in husbandry, and severely lacerated it, with several wounds about the hock. The most dangerous wound was situated at the anterior and inferior portion of that important joint: the extensor of the foot was completely severed, and the cavity of the joint between the cuneiform medium and the head of the large metatarsal laid open; the capsular ligament being wounded, and synovia discharging from the orifice. The horse being in high condition, I took ℔vii of blood from the jugular, and gave him opening medicine composed of Cape aloes, &c. and applied fomentations and cataplasms to the wounded limb. After treating it in this manner for three days with but little prospect of a successful result, I opened the saphena vein, and took ℔x of blood from it, and applied lotions of Goulard extract, water, and rectified spirit. Gangrene and sloughing ensued, and I applied frequently cataplasms of bran and linseed meal, mixed with yeast. The lacerated ends of the tendon sloughed, and separated about one inch from each other: in about eight days a good matter began to be formed, and the wound to assume a healthy appearance. I then gave, occasionally, diuretics, and applied digestive ointment and comp. tincture of myrrh and aloes to the wound, with bandages, and saturnine lotions to the limb: granulations formed, and closed the orifice in the joint. The discharge of synovia ceased; and in five weeks the horse was completely recovered: and I infer that the extensor tendon has united, for the horse performs the functions of progression with ease, and is perfectly sound, which I think it would be impossible for him to do by the aid of the minor extensor alone.

FIRING HORSES.

IN REPLY TO MR. TURNER.

As Mr. Turner has thought fit to make a present of his recent edifications in veterinary practice to the professors of *human* medicine, from a laudable desire that he may one day see men's legs and bodies scored with a red hot iron, the same as those of horses are so unsparingly by him at the present time, probably he looks for a reply rather from a surgical than a veterinary quarter. He cannot, however, in his own mind, look with much satisfaction on any such reply, because he is himself too well aware how little the medical man knows of veterinary practice; and therefore I should imagine that it would turn out of more real service to him to have what those think of his mode of practice who are alone capable of setting a just value upon it.

I conceive that Mr. T. was led to make the exclamation "Monstrous presumption!" from an idea that it was arrogant in him, or any other individual, to pretend to teach the profession any thing concerning an operation so long and so universally practised as *firing;* and the more so, from the circumstance of almost every practitioner having some peculiar notions in the performance of it: and it certainly is a very ticklish subject to meddle with, and one, once agitated, that is likely to employ many more pens than mine and Mr. Turner's.

Though not an advocate for old crotchets myself, nor yet a superstitious adherence to "established practices," still, for all that, I always regard these old forms with a sort of respect, if not veneration: they were instituted by "farriers," it is true—at least, most of them were; but, for all that, they deserve attention; and the more so, since many of them (of which firing is one) have become confirmed by veterinary surgeons. On this account, it is with extreme caution that I ever permit myself to disregard or abolish any *general* practice; and since I do not suffer myself to do so, I am very unwilling, without interfering, to stand by and see others doing it. This is the reason I am now going to make a few observations in reply to those published by Mr. Turner, on the subject of "firing" horses.

I apprehend the object of Mr. Turner's "Inquiry" to be twofold: to revive an operation which he states to be in progress of "abandonment;" and to introduce the practice of *deep* firing in place of the much more prevailing one of *superficial* firing.

Mr. T.'s words relative to the first of these objects are,—

"My desire is to see the 'Phœnix rise from its dying ashes,' therefore (I) will attempt at shewing the causes which have led to the failure and abandonment of the *firing* operation, regarding it as one of our chief resources in effecting *cures*, and therefore indispensable to veterinary surgery."

This "failure and abandonment," Mr. T. informs us, has especially been observed at the Veterinary College, the professors of which institution have inculcated "that other remedies are preferable to the firing iron;" a deception they have been led into from their practice of firing "*superficially*"—"studiously avoiding cutting through the common integuments." To which Mr. T. adds, "that a very strong prejudice (arising from the former) exists at this moment *against* the operation of *firing* in horses, particularly in the metropolis; but it is still upheld in the country as indispensable by post and coach masters, and most sporting men who ride the top pace to hounds."

Before we set about to combat any man's opinions, we certainly ought to be able to satisfy ourselves that he is reasoning from correct *data*. Is it true, that the operation of firing *is* abandoned?

At the Veterinary College it may be, perhaps. I know the College well enough to believe that, *there*, firing may be abolished: the "professors" never rode one hobby long; like the humble writer of these observations, they were always famed for giving any *new* hackney the preference to an old one; and so, ever since nerving, and setoning, and frog-bar-shoes have been in fashion, they have, I dare say, relinquished the old and obsolete practice of firing.

And there can be no doubt (as Mr. T. well remarks), but that these collegiate abolishments and innovations have had their effect upon practitioners at large; if none upon the old and experienced ones, certainly a great deal upon all newcomers. For all this, however, I cannot make up my mind to believe that the operation of firing is "abandoned;" or (with the old and experienced, at least) that it is even growing into any disrepute. That it is nothing like so frequently had recourse to as it used formerly to be, is a fact nobody will deny; and it is a fact which I, as a practising veterinarian, feel proud in having it in my power to proclaim, because it is one which speaks volumes to the ears of humanity in favour of *veterinary* surgery.

I am not one of those squeamish or chicken-hearted mortals that would not, as a *medical* attendant, put an animal to any pain or torture I deemed necessary for his ultimate benefit and relief: at the same time, if I could effect that by *mild* means

which I had been in the habit of employing painful remedies for, I should feel it my *duty* to adopt the former, even though they required a longer interval of time; and I should do so, not merely on the score of humanity, but on the score of the mild remedies being in *themselves* perfectly innocuous to the animal; whereas the severe ones (although they cured the disease) might not be so. I therefore must repeat, that it is a proud day for veterinary surgery to be able to boast, that the tortures of the red hot iron are, in a great measure, superseded by mild but equally efficacious measures; or (what amounts to the same thing, as regards our present argument) that *we* are enabled to effect that by innocent and painless means which was only attainable by our predecessors with harsh and cruel remedies.

I am therefore led to conclude, that the operation of firing is only *less generally* practised than it used to be—by no means "abandoned:" because, for my own part, I feel convinced that there are cases that nothing else will remedy; and because I still meet with old practitioners enough who are of the same opinion.

With regard to the other—the *main* point embraced by Mr. Turner's "Inquiry,"—he observes, "Viewing the other method (viz. the *superficial*), my practice of firing horses has convinced me, that the success of the operation, if performed for the removal of lameness, when the ordinary means have failed, whether situate in a joint or sinew, depends solely in making each separate line or incision, from end to end, completely *through the skin, cutis* as well as *cuticle*, and *boldly exposing the cellular tissue*, forming the immediate covering of tendons, ligaments, periosteum, &c. with all due caution, of course, not to pass the instrument so near as to wound or sear these important structures."

Without meaning to attach any unqualified disapprobation to Mr. Turner's violent mode of procedure, I have no hesitation in asserting, that, as a *general* practice, it is a practice highly to be censured: that man who fires every subject that may require firing, without any discrimination whatever, *completely through the skin*, will do a vast deal of mischief—will certainly ruin *some* horses, although he may prove the means of restoring others. Firing, even when superficially practised, is an operation of much severity and after-consequence, and on this account is more especially one which requires much scientific modification, in accordance with the case wherein it is employed: surely Mr. Turner will not have the hardihood to maintain, that the *deep* firing is the only *effectual* mode of proceeding.

I would fain, in this place, enter into some account of the application, *modus operandi*, &c. of firing: but, as Mr. Turner has

refrained from entering upon these points himself at the present time, although he says he has "as much to remark as would fill a volume," which he proposes "ere long to submit to the public," probably I had better myself reserve what I have to offer on the subject until Mr. T. shall open his well-stored budget. In the mean time, I cannot help remarking, that Mr. T. appears to have had extraordinary luck in never having met with "a single mishap from the severity of the operation, such as an opened joint, or a fatal termination from excessive irritation or constitutional disturbance."

As to the likelihood there is of introducing firing into human (certainly not into *humane)* surgery, Mr. Wakley, the Editor of *The Lancet,* can inform him much better than myself. For my own part, I only wish to know *why* Mr. Turner (whose *ostensible* reason for sending this communication to a *medical* and not a veterinary journal was the suggestion of such introduction) chose to throw so much matter into his "inquiry" that could in nowise interest the surgeon, although it was subject of great concern to the veterinarian. Surely, Mr. T. is not going to pursue the course the Professor's Assistant, Mr. Sewell, takes, *when the spirit moves him to publish;* viz. to send his lucubrations to the College of *Physicians!!* or else to some *Medical* Journal, for fear they should happen to catch the eye or the ear of any one who could possibly form some estimate of the value of them.

A Looker-on.

Sept. 20.

ON FIRING.

Having given, in our last Number, Mr. James Turner's paper on *Deep Firing,* justice to him and our readers requires us further to extract from The Lancet Mr. Fenwick's reply, and Mr. Turner's rejoinder. We shall then, for awhile, quit the subject, anxiously awaiting the appearance of Mr. Turner's promised work on this severe application of the cautery, and we shall then be better enabled to judge how far it may be reconcileable with good practice or humanity.

MR. FENWICK IN REPLY TO MR. TURNER ON THE OPERATION OF "FIRING."

[From the Lancet, Sept. 4, 1830.]

To the Editor of "The Lancet."

Sir,—I beg to offer a few remarks on Mr. Turner's opinions on firing, considering them of a dangerous tendency, and rendered

much more so by being presented to the public through the medium of so widely and deservedly circulated a journal as THE LANCET. Notwithstanding Mr. Turner's assertion, of his whole life having been sedulously employed in the veterinary science, I take the liberty of informing him, though I do not doubt but that he is well aware, there are many others that have been much longer, and equally zealous in the cause as himself, and who have had equally as good, if not better, opportunities, of witnessing, and at the same time are fully capable of judging of the effects of firing. In the rough country, says Mr. Turner, where he practised (describing the worst kind of exertion, he alludes to hunting, which duty I believe the horse is not called on to perform oftener than twice or three times a week, and that only for about four months), the most severe injuries and diseased joints occur, and on this he grounds his practice. Now in London alone, I mean to say, we have as many, if not more, diseases requiring the aid of the firing irons, than are to be found in the whole county of Surrey; and I positively assert, that, independent of my own practice, I have seen and known a great many horses successfully fired in the *common method* by various practitioners. Mr. Turner is even compelled to admit, that firing is successfully resorted to all over the country; and if he would have us believe that they all and everywhere cauterise through the skin, then Mr. Turners's *deep* method is nothing new; if they do not, why in his opinion it was of no avail whatever. Now, if this had been the real state of the case, we can only reasonably presume that firing would have long since sunk into oblivion; but such is not the fact, therefore it must be admitted that the present mode that is practised by experienced individuals is a good one; and this the profession at large will, I feel confident, admit, and even Mr. Turner himself, I hope, on a little *deeper* reflection, if he is not too much wedded to his "monstrous presumption." But further, in order to put the case beyond all cavil, I will suppose Mr. Turner called on to fire a diseased fetlock-joint, a case of frequent occurrence; would he then make the *red hot iron* pass boldly through the skin by crucial incisions till it reached the cellular tissue immediately covering the ligaments, tendons, periosteum, &c.? He says, "To go thus fearlessly to work requires great dexterity, tact, talent, and *nerve*;" and I think he might as well have added, an eye possessing as great an optic power as the most powerful microscope, with a firing iron, although red-hot, invisible to the naked eye, for he says it is to be done with all due caution; then, with all due deference to Mr. Turner's *deep knowledge*, let me inquire how he avoids cauterising and dividing the important nerves, arteries, and veins, that are immediately

under the skin, and under which great part of the cellular tissue he describes also lies*. Why, in fact, if Mr. Turner fires so deeply as he would have us believe, it is evident that he must scorch or divide the horse's nerves with the actual cautery. But, after all, Mr. Turner has not condescended to inform us in what period *his patients recover*, a point of the deepest importance to the owner; but he says it would fill a volume to describe the fore and after treatment, &c., which this *deep plan* requires. In this I sincerely believe him; and have not the least doubt but that many months must frequently elapse before the poor suffering animal is relieved from the effect of this unnecessary torture, to say nothing about the *sequel.*

It may be, perhaps, said, How can the animal be in torture if the nerves are divided? What! Are the inflammation and sloughing, which are certain to follow, nothing? But, says Mr. Turner, " neither I nor my brother ever suffer the excessive irritation and constitutional disturbance to steal a day's march on us." (Fortunate men!) In this I must confess, if true, Messrs. Turner are luckier practitioners than your humble servant; for, in the few instances that have come under my observation, when the animal may happen to have made a sudden and violent struggle before the iron could be withdrawn, and it has unfortunately gone through the skin and burnt the cellular tissue, but without injuring either tendon, ligament, or periosteum, I have invariably found inflammation and sloughing follow, and many months have even elapsed before the poor animal has been again fit for service; and in one instance I recollect the animal became nearly useless from the consequences. Mr. Turner wishes to make it appear, that the use of the actual cautery is nearly abolished in the metropolis. In this respect he is really greatly mistaken; and during my practice of thirty years I have never known the utility of firing called in question, or fail in its effects in a general point of view: it is only condemned by those who could not properly perform the operation, and I call upon Mr. Turner to inform me when and where he has ever seen the *highly-talented Professor* of the Veterinary College, or the *Assistant*, Mr. Sewell, *give the fire* in a skilful manner. I believe there is not an old farrier to be found in the country, that would not be ashamed of his *calling*, on seeing such specimens of firing as I have there seen attributed to the deputy. Now, Sir, I do not pretend to any great knowledge in human surgery, but, as Mr. Turner proposes firing through the skin by crucial incision,

* Any person desirous o ascertaining this fact, may satisfy themselves by calling at my residence, where they will see the whole structure (skin excepted) exhibited at one view.

merely to set the over-distended capsular ligament at liberty, would not the knife be more humane, rather than run the risk of the excessive irritation and dangerous sloughing, which I have every reason to believe would follow Mr. Turner's proposed horrid and monstrous operation? Mr. Turner, I perceive, has extended his deep firing also to the canine species. POOR ANIMALS! I hope this plan will not long continue in use, such a practice being unnecessarily cruel, and barbarous in the extreme, whether practised on man or brute. I have not entered into the true rationale and effects of firing, trusting some one more able will handle that part of the subject, which Mr. Turner does not appear to me fully to comprehend.

I am, Sir,
Your most obedient servant,
GEORGE FENWICK, V.S.

Grosvenor Mews, Bond Street,
August 24, 1830.

MR. TURNER'S ANSWER TO MR. FENWICK ON FIRING FOR LAMENESS IN HORSES.

[From the Lancet, Sept. 18, 1830.]

To the Editor of "The Lancet."

SIR,—Having observed in THE LANCET, for the 4th of Sept. at page 901, a letter from Mr. George Fenwick in reply to a paper of mine inserted in THE LANCET for August the 21st, on the operation of firing for lamenesses, I am induced to offer the following answers to Mr. Fenwick's questions, though I cannot help prefacing them with a short comment on the asperity with which Mr. Fenwick has expressed his objections to my method of operating. I can conceive only two circumstances under which I might have deserved such a reply, viz. if I had been a quack-doctor, or had rashly promulgated the formidable mode of operating, merely upon shallow theoretical grounds; but the truth is, I have been constantly practising these *cautery lesions* (or, to use Mr. Fenwick's awful words, this "*horrid and monstrous operation*") for the last *fifteen* years and upwards, both in the army and in private practice, and there is no veterinary instrument that I take in hand with more confidence than the firing-iron, after a cautious investigation of the seat of lameness.

But to the point:—Mr. Fenwick says, that in order to put the case beyond all cavil, he will suppose me called on to fire a diseased fetlock-joint, and asks, would I *then* make the *red-hot iron* pass boldly through the skin by crucial incisions till it reached the cellular tissue immediately covering the ligaments, tendons,

periosteum, &c.; and further inquires how I can avoid cauterizing and dividing the important nerves, arteries, and veins, that are immediately under the skin. Had he not limited me to a particular joint, I would have selected the hock-joint for the illustration, and attempted to have shewn the *radical cure for bone-spavin.* No; he would fain hope that the *fetlock* might prove a *fast-lock* to the new system altogether.

As I have never practised the operation of firing by either mode unless palpable disease has existed, it is requisite that I should briefly describe the nature of one or two diseases common to the fetlock-joint of the horse—say, of the fore leg.

I will suppose a tumour on the inner or the outer ancle contiguous to either of the sesamoid bones: this is a very frequent cause of lameness, the pulley-like joint formed by the sesamoid bones being more or less involved; this enlargement or bulge is to be met with rather more frequently on the *inside* of the fetlock-joint very near to the *cutting place,* but distinguishable from the effects of striking, in an instant, by the experienced eye: it is a diffused swelling consisting of a condensation of cellular tissue and lymph effused under the skin, while the integuments preserve their original or natural thinness; but there is usually an accompaniment which completely stamps the character of the enlargement, viz., a slight projection or thickening of the inner or outer branch of the *suspensory ligament,* as may happen to be the affected side, just below the bifurcation; the other parts of the leg may be sound and clean, and the patient tolerably free from lameness whilst at rest, but when put to ordinary work lameness ensues immediately. I need scarcely add, that this consolidation of parts originates, in nine cases out of ten, in a sprain of the elastic suspensory ligament. Sometimes *both* sides of the joint are similarly affected. Now for the *cure,* and I promise Mr. Fenwick I will stick to my *text.*

Enlargement of the Fetlock Joint on the Inside of the Fore Leg.

Lesion the 1*st.*—A longitudinal incision with the *red-hot iron,* down the centre of the tumour, as if intending to make a section of it: this single line comprises about half the cure, and therefore it must be boldly done. Merely penetrating the skin from top to bottom will not suffice, unless by its retraction a considerable furrow is immediately produced of a certain size, generally about the width of a large straw: to effect this, it may be necessary also to penetrate a part of the *cellular tissue;* but Mr. Fenwick, in his alarm for the safety of the important nerves, arteries, and veins, must have forgotten that, in the *morbid* condition of

the joint, those structures are completely shielded by the adventitious substances immediately under the common integuments.

Lesion the 2*d.*—A longitudinal incision with the same instrument down the posterior part of the fetlock-joint, in a line with the back tendon or flexor, completely through the skin, but without any additional effort to dilate the furrow; the penetration of the skin only at this part will instantly expose the cellular membrane, forming the immediate covering to the sheath of the tendon.

Lesion the 3*d.*—A corresponding incision down the front of the joint, with the same caution, to penetrate the skin only. The *transverse* incisions between the three longitudinal will complete the operation; these must be performed with a differently-shaped instrument, much smaller, but yet a red-hot iron, which should also *penetrate* the skin, and will require great dexterity on the part of the operator, as it is expedient that the lesion of the skin should be effected with the least possible dilatation of the line. On this part of the undertaking depends the proportion of *blemish,* but when dexterously performed, it contributes much to the *neatness* of the fired leg.

I have, however, on some occasions, dispensed with this division of the operation, and depended solely on the three or four longitudinal incisions, carried to the utmost depth that my experience would sanction, which have proved successful.

My text reminds me that I have yet to expose the periosteum. A bony excrescence in front of the fetlock-joint, rather inclined to the inside, though sometimes to the outer, is another very frequent cause of lameness, and from its inconsiderable size, is often an obscure cause of lameness, varying in size and shape from a pea to a horse-bean, but frequently of the dimensions of a walnut and upwards. This exostosis is generally situated near the superior and anterior edge of the large pastern bone, where it articulates with the large metacarpal bone to form the fetlock-joint. In such a case I depend principally on the single longi tudinal incision, laying bare the periosteum of part of the large pastern bone.

Of course *splints* may be effectually treated in like manner.

With respect to additional cruelty attending this mode of firing, I admit that it is a natural inference to draw; but I doubt the fact, for this reason,—less tumefaction follows my method than attends the other *next best plan of firing,* which consists in passing the instrument *all but through the skin* at the time of the operation, so that the remaining portion ulcerates through in the course of the suppurative process, by about the third or fourth day. Now when we reflect, that there is no organ more abundantly supplied with nerves than the skin of the horse, it

must be obvious that we diminish, instead of increase, the sufferings of our patient by the *perfect*, rather than the *partial* lesion of such organization. Much more might be urged; but as space does not permit, it must suffice to state a well-known fact, that Mr. Thomas Turner, of Croydon, and myself, perform this formidable operation with our patients *standing* on their legs in the proportion of about nine cases out of ten,—I mean without casting the horse.

In the next place, Mr. Fenwick calls upon me, and I confess with good reason, to state in what period my patients *recover:* to which I answer, I require them to remain at my own stables for about a fortnight from the day they are operated on; they are then fit to be turned to grass, straw yard, or a large open shed, without requiring any farther medical treatment whatever, where they remain for the space of two months at least, before they are taken up for work; and, of course, if longer rest is allowed by the owner, so much the better for the case; but two months will suffice.

When it has happened that the owner has been unwilling to promise that period of rest, nothing has ever induced me to risk my credit by operating in a single instance.

Instead of commenting on the concluding sentence of Mr. Fenwick's rather unceremonious epistle, in which he states to your readers, that I do not appear fully to comprehend the subject, I shall be content with quoting his own avowal as a specimen of *profound knowledge* in these matters, after his thirty years' practice in this great metropolis.

"For the few instances that have come under my observation, when the animal may happen to have made a sudden and violent struggle before the iron could be withdrawn, and it has *unfortunately* gone *through* the skin, and burnt the cellular tissue, but without injuring either *tendon, ligament, or periosteum,* I have invariably found inflammation and *sloughing* follow, and many months have even elapsed before the poor animal has been again fit for service; and in one instance I recollect the *animal became nearly useless from the consequences.*"

In conclusion, Mr. Editor, I must avail myself of this opportunity of stating, that I beg to decline any further controversy, as my leisure is at present occupied in preparing for the press a work on this operation, and the various diseases for which it is applicable.

I am, Sir,

Your obliged, humble servant,

JAMES TURNER.

Horse Infirmary, 311, Regent Street,
Sept. 11th.

ARMY VETERINARY DEPARTMENT.

My last letter I directed to the subjects of the *respectability* of the veterinary profession in the army, and the *rank* which was allotted to veterinary officers.

I said that a veterinary army-appointment was not only such as any well-educated and well-bred man might, without the slightest reflection on himself, accept of; but, moreover, had the power of converting the holder of it, who in himself was not respectable, into a being possessed, at least, of the outward aspect of a gentleman; from the circumstances of such a *malotru* having opportunities given him of associating with gentlemen, and of his finding himself pent within *military law*, which is so regulated as to keep him out of the pot-house, and deter him from pursuing (should he feel ever so much inclined) his old habits, or even herding with his *quondam* companions.

I afterwards inquired into the rank conferred upon the veterinary regimental officer; and I found that it was based upon the same principle that the surgeon's and commissary's was—viz. that it only invested him with the privilege of making choice of quarters; but that it was inferior to what was given to those medical and civil officers, inasmuch as the intervals of time between the gradations of cornet, lieutenant, and captain, were much longer, particularly the first interval, which was really grievously protracted.

I observed that his late Majesty, of blessed memory, bestowed commissions upon veterinary surgeons in order to render such offices respectable, and to induce men of education and gentlemanly habits to accept of them; and I feel myself sorry to be compelled to add, that his Majesty's good and gracious intentions have been shamefully frustrated by the recommendation of men whose illiterateness rendered them utterly incompetent to the duties of their stations, and whose low breeding and worse habits not only got them, but their profession along with them, into such disrepute, that in some regiments of cavalry the veterinary surgeon was not a whit better than a common farrier.

Gentle reader, if you would inquire how it has happened that such corruption has crept into the veterinary department of the army, I must, in order to let you fully into the secret, first give you to understand through what channels, and by what means, veterinary surgeons are appointed to regiments.

The original appointment—that from which all the others have sprung—was conferred upon the Professor at the Veterinary College, he being the ostensible head or source from which all

veterinary knowledge flowed, and by whom all veterinary surgeons were created; reasons that rendered it very natural that the army (as soon as it became desirous for veterinary aid) should resort to him for such assistance. And of great and permanent service might the Professor, at this day, have been, not only to the army, to his country, but to veterinary surgeons—nay, to *himself!* Instead of which—instead of looking widely and sagely around him, at such a moment, upon all these important interests, what did he do?—what has he effected? Why, I'll tell you what he did.

Instead of uniformly recommending such persons for appointments as would have reflected credit upon himself and upon the College, and have proved themselves of real and essential service to the army, he occasionally gave preferment very improper characters, and introduced into more regiments than one, grooms and farriers, under the imposing title of veterinary surgeons, which *he himself* had dubbed them with at a prior examination, under his own immediate controul. If, gentle reader, you have any doubt of what I assert, take up an *old* army list, look at the names of the different veterinary surgeons, and make inquiries concerning them, and you will then be satisfied that I am speaking neither without reason nor with injustice. Nay, take up an army list for the present month, and you will find still enough of the *old stock* to make my affirmation true.

Originally, Professor Coleman, the "*Principal* Veterinary Surgeon," exercised unopposed authority in the recommendation and appointment of veterinary surgeons to regiments: he used, whenever vacancies occurred, to receive official notification thereof from the War Office; and the name of the individual which he returned was a sufficient guarantee for his being commissioned. At this period, it was no very uncommon occurrence for an army appointment literally to "go a begging." This power of appointment continued uninterrupted in Mr. Coleman's hands until it was discovered in some of the regiments that their veterinary surgeons were anything but what they ought to have been—that the service was not only not benefitted, but really disgraced by them. This opened the eyes of some of the lieutenant-colonels commanding, and they determined, on any change taking place, to try if they could not obtain the appointment for some individual recommended by some one else but Mr. Coleman. Accordingly, several respectable practitioners had applications made to them by these colonels, for veterinary surgeons for their regiments; and in various instances these efforts were crowned with the desired success: i. e. competent

and respectable men were found, who were willing to accept of the appointments at such hands.

Mr. Coleman, however, no sooner perceived his patronage to be on the wing, and that he was in danger of losing it altogether, than he made strong interest to redeem the monopoly; and it would seem that, at last, he has been successful in his struggles; for now, Mr. Coleman keeps a "List" of the names of candidates for army appointments, which names (however regularly they may stand upon his said list) are *not quite so regularly* transmitted to the commander-in-chief's office, to be there inserted in another list (kept by the secretary of the commander-in-chief), preparatory to their being gazetted into regiments. I say this latter list is not regularly or fairly fed; of which, on a fitting occasion, I shall bring forward some instances. The individual, therefore, who is desirous to enter the army at the present day, it would appear, *must*, of necessity, first obtain the sanction of Professor Coleman, who is authorized to consult his own private feelings whether he chooses or not to transmit his name to the Horse Guards. But, surely, there is, in all this "form and ceremony," not only unnecessary officiality, but a source for injustice; inasmuch as it evidently gives Mr. Coleman an opportunity of serving those who may *please* him as pupils, and casting off others (more deserving, perhaps) that may displease him. I know that the *ostensible* reason produced for all this introduction is, that the pupil recommended for the army shall be *duly competent and prepared;* and that a sort of mock *secondary* examination has been practised to make it appear so. But what occasion can there be for any second examination of a man who has already obtained a diploma, certifying that he is "qualified to practise the veterinary art in *all its branches?*" Or how can Mr. Coleman declare that man to be professionally *unfit* for the army whom he has already proclaimed to the whole world to be competent to practise anywhere else? The very idea is absurd. The Horse Guards, if they attach any importance to such "preparation," are bamboozled; and will, sooner or later, dispense with the ceremony.

No one has a right to complain that Mr. Coleman should enlist several of his friends and relations into his Majesty's veterinary service; but when we see a man who is neither one nor the other, and that man a low, ignorant, undeserving character, promoted into such a station, it gives us just reason to marvel. If possible, the army ought to be spared such disgrace; for that is the only situation in which a veterinarian can aspire to keep company with the "nobles of the land." Were it not for the army department, the profession would to-morrow sink in general estimation al-

most to a level with the men out of whose brotherhood they, in private practice, have been for several years but just ascending.

Supposing that a different line of conduct had been pursued; supposing that young men of education and professional competency had been uniformly chosen for the army; and that this preference had been made manifest to the public—what would have been the result? or, rather, what would have been the vast benefits that would and must have accrued to the army, the science, and the profession? Many respectable parents would then have been found to have sent their sons to the Veterinary College, in order to embark them in the service of the army; and the army would have received them as gentlemen, and valued them as competent professional aids. No longer would the exquisite hussar have dared to turn up his nose at the horse doctor; or would the surgeon of the regiment have imbibed a low opinion of the profession from the ill-bredness or illiterateness of his veterinary colleague—the representative of it. Thus the profession would have become improved and augmented, the science successfully cultivated and advanced, and the veterinary department of the army rendered much more serviceable and effective than it is to be found in the hands of those who but yesterday were grooms, or mercers, or mechanics.

Mr. Coleman annually proclaims from the professor's chair, that "*the sons of grooms and farriers* make the BEST veterinary surgeons." That he has acted up to his *belief*, nobody will deny; for if a *gentleman*, perchance, at any time came in his way, the odds were, that the professor so discouraged him, that he either left the College or the profession, and perhaps both. A medical man—I mean a *surgeon*—in particular, was quite certain of meeting with some discouraging insinuation or rebuke: either that his *habits* disqualified him; that "veterinary practice would be found to dirty his fingers (as if his own surgical practice was a whit better in this respect); or that he "never knew any one succeed who had been brought up a surgeon (as if he himself had not served an apprenticeship to a surgeon, and afterwards studied in London, even up to the very moment he metamorphosed himself into "professor of the *veterinary* art!") This is sad work! They order these things better in France.

Your's,

AN ARMY VETERINARIAN.

EXTRACTS FROM CASE-BOOK.

To the Editors of "The Veterinarian."

Gentlemen,

I SEND you my name and address as vouchers for the authenticity of the following cases. They are *every-day cases;* on that account, perhaps, the more valuable. We wish to know how our brethren treat these every-day cases. In the management of them we are apt to be a great deal too careless, and sometimes very sadly to blunder. Something out of the way may rouse our attention; but here we go to sleep, and too frequently very injuriously commit ourselves. If you think the present batch worth insertion in your valuable periodical, I may, probably, send you others of the same stamp. AMICUS.

SUPERPURGATION AND CHEST AFFECTION.

June 15*th*, 1830.—A horse, three years old, had strangles about a month ago. He has continued to cough, and that cough has lately considerably increased. The owner, who is very fond of doctoring his own horses, began on the 12th to give a drachm and a half of aloes morning and night. On the night of the 13th the horse began to purge; nevertheless, a fifth dose was given yesterday morning. I saw him at eight o'clock in the evening. He refuses to eat, purges every quarter of an hour, is constantly lying down and getting up, rolling, looking at his flanks, kicking his belly, groaning: pulse sixty-five, small, yet hard; extremities cold; membrane of the nose a very light pink, with streaks of injected vessels. Bleed to ten pounds, and give of powdered opium one drachm, powdered oak bark two drachms, ginger half a drachm, and spirit of nitrous æther an ounce, and throw up injections of gruel.

16*th*.—6 A. M. The purging is stopped, the horse no longer rolls, nor is there any expression of pain, but the horse heaves more at the flanks: the pulse is seventy, but not so hard. Give drink, of digitalis one drachm, emetic tartar a drachm and a half, nitre three drachms, and spirit of nitrous æther an ounce.

4 P. M. The horse heaves a great deal more, and is continually walking round and round his box: he does not cease for a minute to do this. The countenance is haggard and wild,—something like delirium appears to be approaching: the membrane of the nose much more reddened: pulse seventy-two, fuller, and yet hard. Bleed to ten pounds, injections of gruel, and drink of laudanum half an ounce, and nitre two drachms.

10 P. M. Still rambles about, but not incessantly: bowels not moved to day: begins again to look at his flanks: extremities very cold: cough entirely ceased. Medicine repeated: blister the sides, and insert two rowels in the chest.

17*th.*—6 A. M. Horse less irritable, but yet wanders a little: pulse 80, but softer: has eaten two or three carrots. Blister has nicely risen. Medicine as before. The dung rather small and hard.

4 P. M. Has ceased to run round; heaves less: membrane of the nose yet too red: pulse 72, softer: cough begins to return; bowels rather confined. Medicines as before. Injections of soap and water.

18*th.*—8 A. M. Horse in better spirits; feeds tolerably, but does not lie down: pulse as before: no evacuation in the night. Give half a pint each of castor and linseed oil, with half a drachm of oil of aniseed.

19*th.*—The horse has been moderately purged, is considerably better, eats any thing, but does not lie down; pulse 60, a little irregular: membrane of nose of a more uniform colour, and less reddened: extremities warm. Levigated antimony two drachms, nitre and sulphur each four drachms, morning and night.

20*th.*—Feeds well; countenance improved; extremities warm: pulse 56: has not lain down. Medicine as yesterday.

21*st.*—No alteration, except the membrane of the nose a little more reddened. Digitalis one drachm, emetic tartar a drachm and a half, and nitre three drachms, morning and night.

22*d.*—Horse dull; refuses to eat; extremities a little cold; slight heaving; acceleration of pulse, but small and hard; nose red, mouth hot. Bleed to six pounds. Medicine as yesterday.

23*d.*—Extremities warmer; heaving subdued; nose less red; pulse as quick, but rounder and softer. Horse very low; eats a little. Two drachms of cordial mass, and six of diuretic in the morning, and ball of the 19th at night.

24*th.*—Horse better; feeds tolerably: medicine as before.

25*th.*—Appetite and spirits improving, but profuse staling has come on: no medicine.

26*th.*—The profuse staling materially lessened; horse better, and has lain down for the first time: no more medicine was given, and he rapidly got well.

STRANGLES.

June 24*th.*—Horse four years old, too well fed, and that is scarcely out of the stable twice in the week, was yesterday driven rather fast. When he came home he refused his food, shivered, and heaved. The coachman took away eight pounds

of blood, and gave an injection containing half a pound of Epsom salts.

This morning at 10 I saw him. The nostrils were dilated; the flanks heaving; the nose intensely red; the head resting on the manger; the mouth hot, and the extremities rather cold. Bleed to eight pounds, and give ball as on the 21st, in the former case. Repeat the injection.

8. P.M. Somewhat, but to no great extent, relieved: coughs. Bleed to six pounds. Ball as in the morning.

25*th*.—8 A.M. Horse better; pulse 70; less heaving; mouth cooler; redness of nostril subdued; eats a little: ball as before.

6 P.M. Not so well; refuses to eat; heaves; coughs more and sorely; pulse unaltered; evident thickening of the cellular texture under the jaws. Rub turpentine liniment under the jaw: ball as before.

26*th*.—Hangs his head; refuses to eat; pulse unchanged; a stifled painful cough, more frequent; more enlargement under the jaw. Blister the throat: ball as before.

12 A.M. The horse being suddenly seized with a violent shivering fit, and the legs somewhat cold, and I being out of the way, another practitioner was sent for. I found him preparing to bleed the horse, to which I peremptorily objected. He then wished to give aloes, which I likewise refused; and the horse being left under my care, I ordered more blister ointment to be rubbed into the throat; two rowels to be inserted in the chest; injections of soap and water to be thrown up, and the balls continued.

27*th*.—8 A.M. Every way better; lively; eats; pulse 60, but the swelling under the jaw has not increased. The blister has risen well.

12. Again sent for. At precisely the same time as yesterday, the horse shivered, hung his head; heaved at the flanks. The weather being fine, I ordered him to be gently walked about for five minutes: the shivering went off; and in the afternoon the horse was decidedly better.

28*th*.—10 A.M. Horse improving; lay down in the night; eats fairly of hay, but will not touch green meat. The swelling under the jaw considerably decreased: diuretic mass half an ounce.

29*th*.—No return of the shivering fit; horse better; swelling under the jaw almost disappeared. Balls as on the 19th, in the first case, were given for a few days; and the horse returned to his work.

A CASE OF RABIES IN THE DOG CONNECTED WITH VIOLENT SPASM IN THE ATTEMPT TO SWALLOW.

By Mr. W. Youatt.

On the 4th of last month I was sent for to Ealing. A cur had bitten a fine Newfoundland dog belonging to Mr. Anderson, and some other dogs and two pigs. It had been destroyed and buried, but was exhumed to be examined by me. A small quantity of dung and straw was found in the stomach, the cardiac portion of which was much inflamed with spots of extravasation. The whole of the pharynx, larynx, and mucous membrane of the windpipe were highly inflamed, and the pleura pulmonalis was inflamed in patches.

On my declaring it to be my opinion that the cur was rabid, the Newfoundland dog was ordered to be destroyed. I, however, begged hard for him; and he was sent to my hospital for experiment. Various circumstances, over which I had no controul, prevented the commencement of any experiment.

On the 19th, he did not feed as usual, and appeared dispirited. Fifteen days only having occurred since the bite, I did not dream of rabies, and ordered a physic ball to be given to him.

On the 20th, he had an anxious depressed look, with the lower jaw slightly dependent. Spasms stole over the face, and were particularly observable in the right eyelid. He was continually shifting his posture, and scraping his bed together; he slightly staggered behind; eagerly gazed at and attentively followed the path of some imaginary object. There was a great discharge of saliva, which he was frequently endeavouring to detach from the corners of his mouth with his paws; a grating, choaking noise in breathing. He was perfectly harmless; immediately came from his cot when called; offered his paw, and rubbed his head against me. He had not quarrelled with any of the dogs (likewise for experiment) with which he was confined; but being led near to another part of the hospital in which were the cribs of the sick dogs, he growled savagely at them. He was separated from the rest, and water put within his reach. He advanced towards it, looked at it, and turned away; he immediately returned, looked steadfastly at it, almost touched it with his muzzle, and suddenly started back: this he repeated several times.

I inoculated two dogs from him, which are well at the present time (Sept. 23d), and determined to try on him the power of the Scutellaria. I boiled half a pound of the dried leaves in a quart of water, half an hour, and straining off and expressing the liquid, I purposed to give two-ounce doses every three hours.

He struggled most violently against the first dose; and when a portion of it, certainly not half, was got into his mouth, the attempt to swallow it produced convulsion of the whole frame; the eyes were distorted, and every limb was stretched out like the last struggle of expiring life. Being forcibly held, and unable to get it from his mouth, he, after the expiration of half a minute, swallowed it; but the gulp was peculiarly loud and violent. Being liberated, he fell on his side exhausted, and dreadfully panting. After the lapse of five minutes he came a little to himself, and crept to the farther part of his bed, gazing intently upon me, suspiciously watching every motion, but faintly wagging his tail, and offering his paw when spoken to.

Our after-attempts to force him with the liquid were even less successful than the first. His resistance was most determined. He never, indeed, attempted to harm either me or my assistant; but he seized the butter-boat which we first used and crushed it to pieces; and he attempted to catch at the spoon which was then substituted. We could not contrive to get more than a third or fourth part into his mouth: that we retained there by forcibly holding up his head; but the spasm at the attempt to swallow became more and more horrible, and the exhaustion more complete at each attempt I would not pursue the experiment, except to exhibit to a few medical gentlemen this unusual similarity to the characteristic symptom of rabies in the human being. At the suggestion of one of them, I substituted water for the decoction, when the effect was precisely the same. Every symptom rapidly increased; the eyes became red, with the expression of anxious wildness; the choaking noise in respiration was greater; the heaving at the flanks became every hour more laborious, and was aggravated with every alarm, and almost at every motion; the lower jaw hung down more, and the tongue protruded discoloured. He frequently approached the water, and gazed wishfully upon it, and then retreated, and returned again to it. His strength rapidly wasted; and, on the morning of the

21*st*.—He reeled as he walked, and in the early part of the afternoon was unable to stand. I forced the medicine once more upon him, when the effect was similar in character, but the spasm not so violent. He still knew me, and even when he could not rise faintly wagged his tail, and after many an effort gave me his paw. He frequently looked at the water, which induced me to put it close to him; but, although he still frequently looked at it, he made no attempt to drink. A pan of clean water was placed beside him the last thing at night, more than a pint of which was gone in the morning, and the poor fellow was dead.

Circumstances delayed the examination of the carcase until decomposition had commenced. The stomach contained a small quantity of straw and hair, and half a pint of olive-coloured fluid. It presented one uniform mass of violent inflammation. The pharynx exhibited an intensity of inflammation which I had never before witnessed. The trachea was seemingly unaffected, and also the intestines; but the pleura of the lungs had the patchy character so often seen in rabies. The brain was one pulpy mass.

This experiment cannot be considered as elucidating any thing decisive as to the effect of the scutellaria, for a small portion only of each dose could be got down, and the exhibition of it was soon suspended.

I purposely refrain at present from making any observations on the case,—they will better belong to a work which I have in contemplation, although it probably will not appear until a far distant period: in the mean time, I thought that a case so unusual, standing almost alone as it regards the dog, should not be altogether withheld from the medical public.

THE VETERINARIAN, OCTOBER 1, 1830.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

OUR present number is of a more controversial nature than usual, and far more than we like: but we, as other men, are the creatures of circumstances, and must occasionally be what our correspondents choose to make us.

The subjects, however, which are discussed are of vital importance—they are the very essence of our being, and prosperity as a profession. We refer, first, to the army veterinary department. It cannot be doubted that our Professor was perfectly right, when he asserted, in the dedication to the king of his work on the foot of the horse, that "by conferring on veterinary surgeons employed in the cavalry the rank of commissioned officers, his majesty had done more to promote the veterinary art than otherwise could have been effected in centuries." And how?—by admitting into the superior ranks of society a portion of our profession, and giving them a *legitimate claim* to that ad-

mission; and thus in a manner opening a door to us all, or at least removing that stigma by which we were previously branded, and which would have long excluded us? The officer or the nobleman who is accustomed to meet the veterinary surgeon at the mess-table, and finds him, from his gentlemanly conduct and general attainments, worthy of his association, thinks the better of the whole profession, and thus a respectability is conferred on the profession, which otherwise it would not and could not have soon attained. Therefore it is a subject of grave importance, whether from mismanagement or neglect this source of our professional reputation has become polluted. Not only the "army veterinarian," but every practitioner, must be jealous of the competence and the honour of the cavalry veterinary surgeon.

We do think, therefore, that our friend Mr. Brown, who deprecates as we do, and as sincerely as we do, disunion among us, and especially at such a crisis, and when our emancipation from thraldom is nearer than many expect, and can only be protracted or prevented by our disunion;—we think that our friend Mr. Brown somewhat misunderstands the "Army Veterinarian," when he says that he is "at a loss to find language sufficiently strong to express his feelings on the document" published in our last number; a document "incompatible with the respectability and gentlemanly conduct" of the writer. The "Army Veterinarian" states expressly that he does not mean "to cast any reflection upon the members who are not in the army," but *they are not and cannot be in a situation to vindicate their just claims on the respect of the public.* Such, from mismanagement at the fountain head, or from some other cause, is the stamp which public opinion has fixed upon them, that only a fortunate few are enabled to vindicate their claim as second only to the practitioners of human medicine. The army veterinarian may not be a whit better surgeon, or better man, than the private practitioner; but the commission which is conferred upon him enables him to mingle with those, with whom the private practitioner cannot mingle; and if he conducts himself rightly, the esteem in which he is held disposes the higher classes of society to think better of all his brethren, and to treat them more courteously, nay, to

admit them to their society, if *in other respects* they are worthy of it. This, we believe, is all that the "Army Veterinarian" meant, or, if he meant more, we agree not with him, and leave him to fight his own battle. The simple question is this, Is the veterinary practitioner, and *as a veterinary practitioner*, placed in that rank which the importance of his art deserves? The surgeon, *as a surgeon*, claims admission to the highest circles: does or can the veterinary surgeon? or would not his claim be scouted if he dared to urge it? There must be something extraneous in manner, education, connection, or long-acquaintance, to obtain that at which he aspires: the very admission, and the esteem consequent upon it, are given to the man, and not to the veterinarian. If we are content with this, well and good; but if we aim at something higher, then we feel much interest in that branch of our profession which has obtained this object, and, by its attainment of it, is assisting our purpose. This we believe is the relative situation of army and private practitioners. There are, proportionately as many respectable men and good surgeons in the one as in the other;—but adventitious circumstances have given to the one advantages which the others do not possess, and the honour of which is reflected on the others, and is highly beneficial to them in many respects.

Then the private practitioner will feel much interest in the character and situation of the army veterinarian. If the source of much reflected light be obscured, his honour will be proportionably dimmed; and, therefore, although controversy be not the intention of our periodical, the actual state of the army veterinary service is a question most intimately connected with the main object we have steadily pursued,—the improvement of our profession.

They who are to mix with the members of a regimental mess, and by whose worth the character of the profession will be estimated by the mess, and by all with whom it has influence (and we know the omnipotence of fashion or patronage), should be men who in education, professional qualification, and gentlemanly conduct will do us no discredit. Has this been uniformly remembered in the appointment of cavalry veterinarians? We can suppose how

difficult it must be, or in fact that it must be utterly impossible, for the Professor, amid the multiplicity of claimants, at all times to select the deserving. We have no right to censure him if occasionally he should be imposed upon by a specious appearance and false pretensions: but it is a proper question for discussion, has he been always so careful in the selection of army veterinarians as he might have been? Has he uniformly remembered his own assertion, that the bestowal of this commission "has induced many medical students of liberal education to devote their services to its improvement?" or has he wilfully and systematically thrown obstacles in the way of men of liberal education and medical students, and even *objected to them at head quarters because they were medical students, and men of liberal education?* These are questions of grave importance. We should most unwillingly believe, indeed, in the language of Mr. Brown, "a contemplative mind can scarcely conceive, that our worthy Professor makes some arrangement with his pupils, previous to their entering the Veterinary College, respecting an army appointment, merely for twenty guineas, and by such means encourages men of low birth and education, in order to deter others of more exalted fortunes from becoming members of the veterinary profession:" but it is a question deserving of strict enquiry, how far something bearing, at least, the appearance of this has occurred, in which medical students and men of liberal education have been excluded, and others of no superior veterinary qualifications and of far inferior general attainments been appointed; and how far hereby that "art" which his majesty had "raised to respectability" has been sunk into utter "contempt." And then comes another question, laying all prejudice and interest aside, how far the late system of college education, open to even every one, completed in a shamefully inadequate period of time, and at an expense which every groom and menial can readily meet, has necessarily forced into the service many with whom the officers could not associate, and by whom the profession was disgraced.

The injury which "the veterinary appointment in the cavalry" has sustained by the late regulations, is another important subject of consideration. Its extent, its cause, the means by which

it may be remedied, are topics interesting to the whole profession. We were previously "sunk low enough in the scale," and could ill afford to lose more ground.

These matters have been warmly, but we think, on the whole, very fairly taken up by the two Army Veterinarians. We know them both;—we know that they are too honourable to assert that which they do not themselves believe to be true, and that, if need be, they are ready to defend, in their own names, what they have said; otherwise no anonymous communication should have been admitted on such a subject. If these writers have been inaccurate in any portion of their statement—if the picture has been too highly coloured—if blame has been unjustly attributed to any institution, or to any individual—the pages of our Journal are at the service of the aggrieved, or of their defenders; but the defence must bear the real signature of the writer, or we must be put in possession of it. The correspondents of THE VETERINARIAN shall never act the part of assassins, nor shall one line appear which the author would be loath to own.

On this principle we have declined to insert the letter of "A Constant Reader." We think that he has mistaken the meaning of the gentleman to whom he alludes; but, at all events, his language is too strong for an anonymous and unknown correspondent.

We need not say that the confidence reposed in us would be sacred; but the possession of the names of our correspondents is a pledge of honourable intention on their part, which our own responsibility and the interest of the profession entitle us to demand.

We have always ranked our friend Mr. Brown, among the steadiest friends of veterinary reform, and have been assured that he possesses

> "All that the contest calls for; spirit, strength,
> The scorn of danger,"

and that he would be the last to deprive us of that most important of all the means of war, "united hearts;" but in the present state of veterinary affairs, we should much doubt the good result of "a public meeting, in London, of passed veterinary surgeons." The actors and speakers in the disgraceful meeting of July 22,

1829, with we believe only one exception, were passed veterinary surgeons: and what was the consequence? Every leading and influential member of the profession retired from a contest that endangered their honour, and the cause in which they had embarked, and the meeting was any thing but what it ought to have been, and every thing that could possibly mar the plans it professed to have in view. The result of that meeting is too fresh in the memory of those who wish well to the profession, to permit them soon to trust themselves again in such an arena.

We confess that we are very much disposed to listen to the excellent advice of "A Stander-by," in our July number. He is quoting from Mr. Percivall: "So long as the profession is made up of such an heterogeneous mass, it is impossible that its members can harmonize and amalgamate. It can only be when respectability and education shall be found to be universally diffused among us, that any thing like professional harmony can exist, or," he adds, "the objects at which we aim be secured." We are unwilling to lose future good by attempting that which is at present beyond our reach.

The education of the student is improving—Its period is lengthening—It is becoming less easy for those to creep in among us who have been the cause of our debasement; and there is a strong public feeling arising, which they who have so far departed from the original design of the Veterinary College are unconsciously promoting. The pertinacious exclusion of veterinary surgeons from the examiners' board—the exclusion of them even as subscribers—the exclusion of them from army appointments when they are men of education, and particularly medical education—these things speak volumes: they are making their impression where we would have that impression made, and the result is neither doubtful nor distant.

Review.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

Biographical Sketches and Authentic Anecdotes of Horses and the allied Species; with Engravings. By Captain Thomas Brown, F.L.S., M.R.P.S., M.K.S., &c. Edinburgh, 1830. Price 9s.

In a selection of "Biographical Sketches and Anecdotes," we do not expect to find much original composition. The author of such a work claims the privilege of laying all his predecessors and contemporaries under contribution; and, if he honourably acknowledges the sources whence he derives his information, his work is valuable in proportion as he judiciously gleans from every quarter: nay, we will allow him not only to collect the flowers, but to borrow likewise those touches of sentiment or links of science by which others have been accustomed to bind up their intellectual bouquets. When, however, an impudent intruder culls, without leave or license, the fairest productions of every parterre, and, to conceal the robbery, strips the moss-rose of its fringed calyx, and plucks away many of the varied petals of the carnation, and overpowers the sweet scent of the jasmine by the sickening odour of the lilach, and compounds, at length, a nosegay, ill-arranged, and void of beauty, yet its several parts still faintly recognised, and now disgracing the rightful owners of whose demesnes they were before the ornament, such a plunderer deserves exposure and punishment; and we could tell him, in the words of old Isaac Barrow, that thus "to break open the closet of a man's heart, to ransack his mind, and to pilfer away his thoughts, may well be deemed a worse sort of burglary or theft, than to break open doors, to rifle trunks, or to pick pockets." Such, however, is the modern system of book-making.

We are afraid that the work before us, containing much that is amusing, is not altogether free from the charge of piracy. We do not demand that the authority for every anecdote should be given, although that would be satisfactory to the reader; but the public has a right to require that the source whence the more scientific part is derived should be honestly stated; and contemporary authors have a right to complain if their ideas are stolen, while their language is strangely garbled to escape the legal proof of plagiarism.

We select a few passages, the rightful property of which we immediately recollected :—

Farmer's Series.—The Horse, p. 3.

When Sir Gore Ouseley travelled through Persia and the different countries of the east, he examined, among other relics of antiquity, the sculptures on the ruins of Persepolis, and he draws from them a curious and interesting conclusion as to the *manner* in which the horse was gradually subdued.

According to the Anglo-Saxon computation, 48 shillings made a pound, &c.—*ditto*, p. 23.

Capt. Brown, p. 24.

Sir Gore Ouseley mentions in his travels through Persia, and various countries of the East, that he examined all the relics of antiquity, and amongst others the fine sculptures on the ruins of Persepolis; from which he drew a conclusion at once interesting, and in some measure confirmatory of the opinion above noticed, that the horse has been gradually subdued.

The Anglo-Saxons computed their money at 48 shillings to a pound, &c. —p. 65.

Compare the description of a race. The plagiarism is perfectly unique. The curiosity of the thing is a sufficient apology for its length.

The horse enters into the spirit of the race as thoroughly as does his rider, and, without whip or spur, will generally exert his energies to the utmost to beat his opponent. It is beautiful to see him advancing to the starting-post, every motion evincing his eagerness. The signal is given, and he springs away—he settles himself in his stride—the rider becomes a part and portion of him, every motion of the arms and body corresponding with and assisting the action of the horse. On he goes, eager, yet husbanding his powers. At length, when he arrives at that distance at which the rider knows that he will *live home* at the top of his speed, the hint is given, and on he rushes. Then the race in reality begins, and every nerve is strained to head his competitor. Then too comes the art of the jockey, to keep the horse within his pace, and with admirable *give and take* add to the length of every stride. Then perhaps the spur, skilfully applied, may be necessary to rouse every dormant energy. A sluggish, lurching horse may need more punishment than the humane observer may think justifiable. But the natural ardour of the race-horse, roused, at the moment of

It is well known that the horse enters into the spirit of the race with as much zeal as the rider himself, and will, in general, strain every nerve to outstrip his adversary. As he advances towards the starting-post, all his motions betray the eagerness of his desire to start: when the signal is given, away he goes at a settled and steady pace. The rider becomes as it were a part of the quadruped, whose every motion should correspond to his movements. He proceeds forward, restrained to the pace his rider thinks best suited to his strength, and preserving his powers till the last spur: the rider knows well where to push him; he touches him, to indicate his wishes for a trial of his strength: the hint is speedily taken, when all his nerves are called into action, and he bounds to his utmost stretch. It sometimes, though rarely happens, that the spur becomes necessary to rouse every energy; he knows its import, and every muscle is exerted to defeat, if possible, his competitor. If he has spirit, little application of these will be necessary; and if dull, all the punishment that can be inflicted will prove unavailing. But, in general, the natural spirit of the race-horse, when roused

the grand struggle, by the moderate application of the whip and spur, will bring him through if he can win.—*The Horse*, p. 49.

into action, from the opposition of the moment, has usually the effect to leading him through every obstacle at the time, and the whip and spur in such a case are, therefore, not required.—p. 261.

We have transcribed this into our album, as a specimen of literary thievery, and not open avowed plunder, but pitiful petty larceny, best punished by the pillory or the stocks.

Anecdotes may be considered almost as fair prey, but the author of this work cannot *honestly* steal even them. We happen to know that the story of an unsuccessful attempt to capture a Dartmoor pony was communicated to the author of the Farmer's Series by a gentleman residing on the spot. It suited the purpose of the work which we are now reviewing; but mark how the compiler has trimmed and transmogrified it, to escape being hung, drawn, and chained for piracy.

"The late Captain Colgrave, of the prison, had a strong desire to possess one of them, of somewhat superior figure to its fellows, and, having several men to assist him, they separated it from the herd. They drove it on some rocks by the side of a Tor (an abrupt pointed hill). A man followed on horseback, while the Captain stood below watching the chase. The little animal, being driven into a corner, leaped completely over the men and horse, and escaped."—*The Horse*, p. 59.

"The late Captain Colgrave was desirous of possessing himself of one of them that was running wild amongst the herd, which had *a better appearance than* his fellows. *He got the assistance* of several men, *who succeeded in separating this individual* from the herd. They drove it upon some rocks by the side of *a pointed hill, called in that district a Tor.* One of the men followed the pony on horseback, while the Captain stood on the *low grounds*, watching *the progress of* the chase. The poor animal being driven into a corner, and *seeing no prospect of escape, made a desperate leap, fairly cleared the man on horseback, and flew with such precipitation down the hill, that he distanced his pursuers, and joined the herd.*"--p. 434.

If it were worth while, we could easily shew that almost every popular writer on the horse has been laid under similar contribution.

Capt. Brown commences with a very *pretty* although not very intelligible description of the horse: "He is formed with such a *pliability of physical structure and constitution, that man may mould him to the form and bulk best fitted for the particular service in which he is to be employed.* Whether," he says, "we contemplate the powerful and symmetrical structure of his frame; the elegance of his limbs, evincing strength and speed in their movements; the delicacy and glossy sleekness of his skin; his large and sparkling eyes, which either beam with mild

intelligence or flash with energetic fire; or the docility and tractability of his disposition, we cannot fail to regard him as one of the noblest works of creation." "In the words of Stillingfleet, he

> Holds a rank
> Important in the plan of Him who framed
> This scale of beings; holds a rank, which, lost,
> Would break the chain, and leave behind a gap
> Which nature's self would rue."—p. 18.

"According to Linnæus, the horse is a generous, proud, and strong animal, fit either for the draught, the course, or the road. He is delighted with woods; he takes care of his hinder parts; defends himself from the flies with his tail; scratches his fellow; defends his young; calls by neighing; sleeps after night-fall; fights by kicking, and also by biting; rolls on the ground when he sweats; eats the grass closer than the ox; wants a gall-bladder; never vomits; the foal is produced with the feet stretched out; he is injured by being struck on the ear or upon the stifle, by being caught by the nose in barnacles, by having his teeth rubbed with tallow, and by various herbs."—p. 148.

In speaking of the ancient and modern history of the horse, our author hazards an opinion to us perfectly new. Our readers may profit by it *quantum valeat*: "Arabia being sufficiently above the level of the sea, and having a surface composed of sand, mixed with a portion of vegetable mould (a circumstance favourable to pasture ground), and the plains of Persia situated still higher above the ocean, and consisting of a deposit of alluvial soil resting on granite, are naturally dry, and, by means of their heat, attract moisture from the horse. On the other hand, the aromatic vegetation, which is there strong and succulent, drives from him those humours, the exudation of which is favoured by the imperceptible but continual perspiration incidental to a warm climate. The consequence is, that the horses of these and other countries, with similar pasturage, are completely free from the strangles and other glandular diseases, which are frequent and fatal to those of Europe."—p. 39.

In "Biographical Sketches and Anecdotes of the Horse," we however have no right to expect the display of very accurate knowledge of physiology or pathology: if the sketches are drawn from life, and the anecdotes are amusing and authentic, and the sources whence they are derived acknowledged, we have nothing of which to complain. We have said our say of the last of these, and not more severely than such systematic and artful piracy demanded. We will now give a brief outline of the contents of the work.

Captain Brown first gives a sketch of the early history of the

horse, whose origin he traces from the plains of Asia, and "the indigenous breed of all the European varieties of the horse" he derives from Scythia at a very remote period. These were improved by the conquest of Spain by the Carthaginians, when much African blood was introduced, and by the wars between the Greeks and Persians, during which many Asiatic horses found their way to Greece; and thence, gradually, first to the south-eastern parts, and afterwards to nearly the whole of Europe.

The "sketch of the progress of horses in Great Britain, from the time of Julius Cæsar until there was instituted a Veterinary College for the reformation and improvement of farriery, and the treatment of cattle in general, with a school of which M. Vial de St. Bel was professor," has much ability and interest.

Next come "superstitious and fabulous notions of the ancients and moderns regarding the horse," in which we have again presented to us some of the wild and beautiful fictions which delighted us in our boyish days. But the picture is not complete; several of the sublimest mythologies are scarcely glanced at; others are quite forgotten; and for many a fascinating tale of classic lore we search in vain. Our author writes, "It is said that Neptune, by striking the ground with his trident, produced a horse." We can scarcely forgive him for not adding the ingenious and satisfactory elucidation given of this fable by some learned men, and lately by our excellent classical brother Mr. Bracy Clarke, who has proved that the horse was a ship, by the production of which "he advised the Greeks to the practice of navigation; while Minerva, by the production of the olive tree, counselled them to pursue agriculture."

To this follows an "historical account of hunting," from the time of Nimrod the third in descent from Noah to the present day. Here again he wanders a little way, but not so far as we could have wished, into the regions of fabulous history. He tells us indeed of Castor and Pollux, and Hercules, and Adonis, and Orion, but he feels not the magic spell by which we have been enthralled in days long gone by. His account of Grecian, Roman, Welsh, English and foreign hunting is somewhat maigre.

He now comes to what he calls his "specific account of the horse," or the natural history of that noble animal. His account of the external conformation of the horse is brief, reserving himself for a detailed description of his different varieties. In speaking of the age of the horse, he says that Albertus mentions an instance of a charger proving serviceable at the advanced age of 60; and that Augustus Nephus describes a horse in the stable of Ferdinand the First that had attained the extraordinary age of 70 years.

Captain Brown next describes the different varieties of the horse. He begins with the Arabian, and first in his native country, and gives us all the interesting anecdotes usually related of that noble animal, with some which were new to us. Among these is the strange account of the *Kohlan* or superior breed. The author gives the authority of Count Rzeiousky for the marvellous relation.

"Above all the horses in the world, the Kohlan is distinguished for the goodness of his qualities and the beauty of his form.

"An uncommon mildness of temper; an unalterable faithfulness to his master; a courage and intrepidity, as astonishing as they are innate in his noble breast; an unfailing remembrance of the places where he has been, of the treatment he has received; not to be led, not to be touched, but by his master; in the most horrid confusion of a battle, cool and collected, he never forgets the place he came from, and, though mortally wounded, if he can gather up sufficient strength, he carries back his desponding rider to his defeated tribe. His intelligence is wonderful: he knows when he is sold, or even when his master is bargaining to sell him. When the proprietor and purchaser meet for that purpose in the stables, the Kohlan soon guesses what is going on, becomes restless, gives from his beautiful eye a side-glance at the interlocutors, scrapes the ground with his foot, and plainly shews his discontent. Neither the buyer, nor any other, dares to come near him; but, the bargain being struck, when the vender, taking the Kohlan by the halter, gives him up to the purchaser, with a slice of bread and some salt, and turns away, never more to look upon him as his own—an ancient custom of taking leave of a horse, and his recognizing a new master—it is then that this generous and noble animal becomes tractable, mild, and faithful to another, and proves himself immediately attached to him whom his passion, a few minutes before, might have laid at his feet, and trampled under his hoof. This is not an idle story; I have been a witness of, and an actor in, the interesting scene, having bought three Kohlans in 1810 and 1811 from Turkish prisoners. I made the bargain in the stables, and received personally, and led off the most fierce but intelligent animals, which, before the above-mentioned ceremony, I should not have dared to approach."—Page 170.

To this succeed sketches of the most celebrated of the eastern horses, for which he is indebted to John Lawrence, Smith, and others, while there is the same disingenuous mode of concealing the obligation. Take a sample or two.

Smith's Observations on Breeding for the Turf. *Biographical Sketches.*

Honeywood's White Arabian

Was the property of Sir John Williams. He was the sire of the two True Blues, which were both in very high form. The elder was the best plate horse in England of his time. It is supposed this Arabian did not cover any other full-blood mares except the dam of the True Blues.

Was the sire of the two True Blues, both animals of very high form. The elder of these was the best plate horse in England of his day. This Arabian was the property of Sir John Williams, and is supposed never to have covered any other full-blood mares, except the dam of the True Blues.

The Lonsdale Bay Arabian

The property of Lord Lonsdale. He was sire of his Lordship's Monkey, Spider, Jigg, Juba, Cyrus, Kouli Khan, Ugly, Nathan, Sultan, and several others.

Was the property of Lord Lonsdale, and sire to Monkey, Jigg, Spider, Juba, Kouli Khan, Cyrus, Ugly, Sultan, Nathan, and others.

Cum multis aliis. This is not, and cannot be right.

Our author next considers the different breeds of foreign horses, and then the varieties of the English horse, the racer, the hunter, the hackney, &c. &c. He describes the conformation of each, and relates many and interesting anecdotes of them. We select a few not generally known.

The first is an unparalleled example of the possibility of sustaining life without food:—

"A colt, the property of Mr. Edward Lemin, of Truro, in October, 1793, fell into a shaft, four fathoms deep, where it remained for one month before it was discovered: it was taken up alive and unhurt, though in a very emaciated state, and, by proper treatment, perfectly recovered. It was impossible that it could have received the least food or water whilst it was in the shaft."—Page 319.

That many animals are sensible of the "concord of sweet sounds" we have various instances on record. Captain Brown adds another, communicated by an intimate friend:—

"During the course of last summer, I had occasion to walk through the grounds of the Duke of Buccleuch, at Dalkeith. I thought I would leave the *road*, and cross a field for the purpose of seeing some of his Grace's hunters, which were at grass. Accordingly, proceeding to the field where the horses were, I endeavoured to approach near them, but found them rather shy. It struck me that I would try the effect of sounding a small musical instrument which I had purchased a few days before, called, I believe, the 'mouth Eolian harp.' On sounding the chord from this instrument, such of the horses as were

within hearing, though previously retreating, I may say, from me, jerked up their heads, and, turning suddenly round, gazed steadily at me. I repeated the chord rather louder than the first time, and this attracted the attention of the whole of them. For some few minutes, whilst I continued to play, they gradually approached me, stopping and listening. At length they began to draw so much round about me, that I considered it prudent to retreat a little from them, which, accordingly, I did, but kept still sounding the chords, at intervals, as I walked. Whilst doing this, they all followed me, but in particular two or three approached me very closely, stopping when I stopped, and following as I retreated. Having at last got a paling between them and me, I halted, and determined to try how closely I could bring any of them to me. After standing and playing the chords for about five or six minutes, one of them, who, from the first, had approached nearest to me, gradually drew nearer and nearer, until at last he fairly brought his head in contact with my breast, keeping it there, and seemingly enjoying in a great degree the sounds of this small musical instrument. As the others, however, appeared to be either gathering courage from his example, or anxious to approach nearer to the sounds which seemed to delight him, I took my departure, not choosing to await the *marks* of gratitude which they, though innocently enough, might perhaps have bestowed on me."—Page 334.

Of the great sagacity of the horse no one accustomed to that noble animal can doubt. Captain Brown relates two instances which rather border on the marvellous. The first is of Old Tommy:—

"There was an old horse, well known in the pretty village of Rainford, and even for many miles round, by the name of 'Old Tommy.' His sagacity was particularly shewn on one occasion, when he lost one of his shoes in the pasture: being aware of his loss, and knowing, from long experience, the comfort of good shoes, he lost no time, upon the opening of the gate, in repairing to his old friend, the blacksmith, who soon discovered and supplied his want. He then made the best of his way home, and prepared for the service of the day."—Page 447.

The second would convince us that our patients sometimes gratefully remember our care of them, although the owner may shabbily refuse the honest remuneration:—

"A cart-horse, belonging to Mr. Leggat, Gallowgate Street, Glasgow, had been several times afflicted with the *botts*, and as often cured, by Mr. Downie, farrier there. He had not, however, been troubled with that disease for some time; but, on a recurrence of the disorder, he happened one morning to be

employed in College-st. a distance of nearly a mile from Mr. Downie's workshop. Arranged in a row with other horses employed in the same work, while the carters were absent, *he left the cart*, and, unattended by any driver, went down the High Street, along Gallowgate Street, and up a narrow lane, where he stopped at the farrier's door. As neither Mr. Leggat nor any one appeared with the horse, it was surmised that he had been seized with his old complaint. *Being unyoked from the cart*, he lay down, and shewed, by every means of which he was capable, that he was in distress. He was again treated the same as usual, and sent home to Mr. Leggat, who had, by that time, persons in all directions in search of him."—Page 450.

In conclusion, we can recommend this publication as a kind of *omnium gatherum;* as embodying many authentic anecdotes, and some strangely marvellous ones of the horse; and as a pleasant companion enough in an idle hour.

Extracts from Journals, Foreign and Domestic.

On the Diseases of the Spinal Chord and its Membranes in the Horse.

By M. Bouley, *Jun. V.S. at Paris.*

[Continued from page 525.]

Long time have veterinarians observed palsy of the limbs of horses, but, up to the present day, they have all ascribed it to traumatic lesions of the spinal chord: no one has suspected that this disease (or rather this *symptom* of disease) might be the product of some spontaneous alterations either in the spinal marrow or its membranes; although daily experience proves that, in the majority of cases, this morbid phenomenon is ascribable to the latter of these causes.

Morbid alterations of the spinal marrow may be either *accidental* or *spontaneous.*

The first, in horses, are commonly the result of fractures or luxations of the vertebral chain. These accidents, always fatal, commonly happen to the cervical and dorso-lumbar regions, and are productive of compression of the spinal marrow, or laceration of its membranes or even of its substance. They are frequently accompanied by violent commotions and effusions of blood between the spinal membranes, and always terminate in palsy, more or less complete, which becomes manifest in an endless variety of ways, according to the part of the marrow which is injured.

Such-like accidents being familiarly known to veterinarians, I need not adduce any facts in support of them: I shall therefore pass on to the consideration of *spontaneous* lesions, which is the object of the present memoir.

Congestions and sanguineous effusions, and inflammation of the spinal membranes and of the marrow itself, are the only spontaneous alterations that have come under my notice; and these I shall consider in succession.

Sanguineous Congestions in the Membranes are frequent enough among horses: they commonly happen between the pia mater and the arachnoides; sometimes in the tissue which unites the dura mater to the vertebræ; rarely within the spinal sheath. No precursory sign foretels their arrival, nor does any pathognomonic symptom betray their presence; their commencement is sudden, and is instantly succeeded by marked derangement in the locomotive functions: the dorso-lumbar region being their ordinary seat, palsy of the hind limbs, more or less complete, becomes the consequence.

These congestions, at length bursting, are sometimes followed by hæmorrhages into the meninges of the marrow, which have by *Doctor Ollivier* been described under the name *of hematorachis;* but whose existence can only be detected by examination after death.

One easily conceives how these congestions and hæmorrhages give origin to a number of disorders which it is impossible to particularize, so much do they depend upon the seat of these lesions, their extent, and especially the suddenness with which they have taken place. We know in effect that a very inconsiderable effusion of serum or blood taking place suddenly, on any portion of the membranes, is sufficient to produce at once decided paralysis; while a much larger quantity of the very same liquids, gradually effused, will at times occasion no important alteration, and often continues unsuspected until discovered after death.

We have every reason to believe, that in horses the sanguineous spinal congestions often precede inflammation of the spinal marrow and its membranes, in which case it becomes the occasional cause: the rapid advance of palsy of the hind limbs in this animal, and especially its sudden and almost instantaneous attack, leaves us no room to doubt that it is so, if not in all, at least in the majority of cases.

It appears also highly probable that the spinal marrow of the horse is itself the occasional seat of sanguineous effusion or true *apoplexy.* The development of the organ, the important functions it performs, and the frequency of congestions of

its membranes, warrant this opinion; at the same time, I must acknowledge, that I have never met with this lesion; and that in making such a presumption here, my object is to fix the attention of veterinarians upon this important point of pathological anatomy.

The Membranes of the Spinal Marrow may inflame singularly or simultaneously. The last is the most frequent occurrence. These *phlegmasiæ*, the study of which has been long neglected, were formerly designated by the collective name of *arachnitis;* a denomination no longer admitted, and for the abolishment of which the motives will appear hereafter.

Inflammation confined to the dura mater is very rare, and as yet has received no description in veterinary medicine. Indeed, it has been seen but little of in man, excepting in cases wherein the osseous parietes of the vertebral canal were themselves diseased; and I have myself only one case to record of it in the horse, and that was the sequel of poll-evil. In this case, the pus had made its way to this membrane through a sinus running on the right side of the cervical ligament, between the atlas and dentata. This latter vertebra had become slightly carious; and the dura mater, thickened and injected, presented a brownish surface covered with very fœtid pus.

I am as yet ignorant whether such effects follow virulent *fistulæ:* but it seems to me that the length of the spinous processes, and the thickness of the vertebræ and of the substance covering them, render such an alteration little likely to happen (if ever it does) in the regions of these maladies.

The arachnoid membrane has long been regarded as the ordinary seat of spinal phlegmasiæ; though it appears to be well established at the present day that this membrane, of itself, is not susceptible of inflammatory action, and that all the morbid phenomena ascribed to *it* occur in the tissue underneath it.

"I know of no fact," says M. Andral, "proving that the arachnoid has ever been found injected, opaque, or thickened: these divers alterations constantly exist *beneath* it; therefore nothing is more incorrect than to affix the denomination of *arachnitis* to inflammation which affects membranes immediately enveloping the marrow."

This opinion is likewise perfectly consonant with the researches of Béclard, and MM. Ribes and Ollivier, who give us to understand that neither in health nor disease has any vessel ever been discovered in the arachnoid.

Despite, however, of the judicious reflections of M. Andral and the accurate and important investigations just cited, it does appear to me surprising that we should deny the possibility of

the arachnoid becoming inflamed, while we concede without scruple this power to the pleura and the peritoneum. Do not the same phenomena occur in inflammation of the arachnoid as in that of other serous membranes? Do we not daily witness in the horse the pleura itself quite healthy, although its surface is clothed with adventitious membrane, and its sub-serous tissue is thickened and injected? I must confess I cannot understand the difference drawn between these phlegmasiæ.

However, I feel myself in justice bound to add, that inflammation of the spinal arachnoid is by no means common, and that it is a membrane that rarely manifests the organic alterations so frequently observable in analogous tissues. In point of fact, I have never remarked fibrous chords issuing from its surface; and among the divers examinations I have made of horses with palsy of the hind extremities, I have not once met with the fibrinous depositions so commonly seen upon the exhaling surface of inflamed pleuræ: nevertheless, the adventitious fibrous membrane observed by M. Dupuy in a paralysed ox, and the observations and experiments made by M. Renault on the cerebral arachnoid of the horse, leave no doubt that such morbid productions may form, in certain cases, as well upon the spinal arachnoid as upon other serous membranes.

In the sound state, the spinal sheath always contains a little limpid serocity, the product of the perspiration continually oozing from the surface of the arachnoid. This serocity, in phlegmasiæ of the spinal membranes, becomes more or less coloured, and sometimes augmented in quantity. We must take care never to confound this with the cephalo-spinal liquid inclosed within the lamellæ of the pia mater.

When we are desirous to test the coloration and quantity of the liquid contained in the sheath, it is of great importance that we calculate the time elapsed since death; for the longer that interval, the more considerable the quantity. It would appear also, that, at a certain period (about two days after death), the colouring matter of the blood transudes through its vessels and through the arachnoid, and tinctures this fluid, reddening it more or less, which has long been erroneously regarded as a pathological condition; so that it is not until all this has been taken into the account, that we are authorised in setting down as a pathological phenomenon either the quantity or the tinge of this serous fluid.

Inflammation of the pia mater is a more frequent occurrence in the horse: it is almost always accompanied by some sensible alteration in the spinal marrow, though sometimes it exists alone. In either case, the principal phenomena of this inflammation

take place, not in the pia mater, whose vessels are simply injected, but in the cellular tissue uniting that membrane to the arachnoid. Here, the cephalo-spinal fluid undergoes some remarkable changes: in some cases it loses its limpidity, and turns quite red; in others its place is supplied by a greater or smaller quantity of effused blood. I have never discovered any purulent matter, as is sometimes found in man. The rapid progress the disease makes in horses, is, no doubt, the sole cause of this difference.

The spinal marrow itself, as well as the membranes enveloping it, is susceptible of inflammation. This phlegmasia, which is named *myclitis*, may invade the entire marrow, or only occupy some one of its regions. It gives origin to a series of symptoms which I shall not attempt a description of here, whose violence is greater the nearer the disease approaches the brain.

The disease may be either acute or chronic: it rarely assumes the latter type in horses. I am acquainted but with one well-authenticated example, and that we owe to M. Dupuy. I have already noticed it. Acute myclitis, much more frequent, consists in a simple vascular injection of the marrow, giving the medullary substance a red-pointed appearance, and the grey substance more or less of a rosy tint. Should the disease continue, this condition speedily changes: the marrow loses its consistence, becomes soft and spreads, and is converted into a kind of white or grey pulp, sometimes of a colour like wine, without any trace of primitive organization. These diseases spring up in horses with astonishing promptness: one, two, or three days, suffice for their production. The cases I shall relate will, I trust, remove all doubt on this head.

Some authors, among whom we must class M. Recamier, suppose that the softening of the marrow is not the effect of inflammation, but the result of a special alteration of the nervous substance. M. Ollivier professes an altogether contrary opinion, upholding it by asserting that these softenings are almost always accompanied by inflammation of the surrounding tissue, and are more especially conspicuous in cervical and lumbar affections, parts in which the grey substance predominates; and that, as everybody knows, is most vascular, and consequently most liable to inflammation. M. Andral is of the same opinion, without, however, denying the possibility of softenings of an especial nature. The researches I have hitherto made, which I shall shortly produce, incline to the opinion of the last of these authors, and lead me to think that the softening of the spinal marrow in horses is almost always the work of inflammation.

[To be continued.]

On the Effect of certain Medicines on the Domestic Quadrupeds.

By M. Gilbert.

[Journal Pratique, May 1830.]

The work of M. Gilbert to which M. Dupuy referred in the extract from his memoir on the injection of certain medicines into the veins, which we gave in our last number, p. 529, and which we intended to have carefully reviewed, being out of print, we proceed to translate the brief summary with which M. Dupuy presents us of some of the experiments. They are most interesting, and seem to prove that we are, in truth, almost destitute of arms with which to contend against too many of the maladies of our patients.

An infusion of four ounces of senna leaves, to which were added six ounces of socotrine aloes, was given to a cow seven years old, and of moderate size. The drink produced no effect, but the animal continued to eat and drink as usual.

Eight ounces of opium, dissolved in a quart of water, were given to a cow three years old, with very little effect.

Six drachms of tartarized antimony, dissolved in a pint of water, were given to a cow three years old. The only consequence was, that although she was before thought to be in calf, she went to heat.

A ball composed of eighteen drachms of corrosive sublimate, mixed with two ounces of meal, was given to a cow two years and a half old, with precisely the same effect.

An ounce and a half of powdered aloes suspended in water was given to a sheep five years old, without producing the slightest effect.

Balls composed of an ounce and a half of aloes, were given to a large sheep four years old, without effect.

Two ounces of jalap suspended in water were given to a sheep six years old. The animal died fifteen hours afterwards, and all the stomachs except the paunch were intensely inflamed.

Three drachms of tartarized antimony dissolved in water were given to a sheep three years old, without effect.

Three drachms of opium suspended in water were given to a large sheep four years old, without effect.

Four drachms of opium made into a ball, were given to a sheep two years old. The only immediate effect was a little loss of appetite, but the animal died seventeen days afterwards.

Twelve drachms of corrosive sublimate made into a ball with meal were given to a sheep of the same age, without effect.

Four ounces of senna infused in a pint of water, were given to a sheep three years old. No purging ensued, but the animal died fifteen days afterwards, and the last stomach and the intestines generally were very much inflamed.

Two ounces of aloes made into balls, were given to a sheep eight years old. It died seventeen days afterwards without having been purged.

Bourgelat has recorded the following experiments:—

Twenty-two grains of tartarized antimony produced no effect upon a sheep. They were given in divided doses. The animal had been kept twelve hours without eating. Ten grains of the emetic tartar were then administered. Two hours afterwards he was drenched with warm water, which instead of nauseating the animal, seemed to reanimate him. At the expiration of another hour four grains more were given, and the remaining eight grains at intervals of half an hour. No effect was perceived but a copious flow of limpid urine, as in the natural state of the animal.

Two drachms of tartarized antimony were given at eight o'clock in the morning to a strong mule: they excited in her for about an hour violent heaving of the flanks, and rumbling of the bowels; but she continued to eat, and dunged and urined as usual.

At ten o'clock four drachms were given to her in an infusion of an ounce of senna. At the moment of administering the drink, she dunged, and the dung was of its natural state. Some minutes afterwards, she voided dung of less consistence, and her urine was as thick and white as milk. At eleven o'clock she passed a very loose stool, and did not dung afterwards during the day, but she voided urine frequently, and always as white and thick as before.

On the following morning two drachms more were administered. This excited no beating of the flanks, but she snorted considerably in the morning, and from three o'clock until six she passed much urine, thick and white as on the preceding day. She was likewise purged ten times.

On the next day an ounce of the tartar emetic was given, and two hours afterwards, as was also done in the former experiments, she was drenched with a considerable quantity of warm water She snorted and sneezed very much, urined often, thick and white as before, was purged ten or twelve times, and seemed much distressed.

A day's repose was now given to her, when two ounces of emetic tartar were administered. No sensible effect was produced, except that she staled often, the urine was less thick and white, and she neither snorted nor purged.

M. Dupuy observes, that the faith which is reposed on certain recipes, and the hardihood with which they are applied to the different diseases of animals, is the height of absurdity; and that the powers of the greatest mind could not be better employed than in endeavouring to convince the public that they only are worthy of confidence, who, before they attempt to cure, have studied the characters of disease and the resources of nature.

He continues, and it is perfectly true with regard to the French school, that the number of substances which are employed in the treatment of disease constitutes one of the greatest obstacles to the progress of medical science. Fourcroy had said in 1785, that "the mixture and confusion of medicaments is one of the grand obstacles which medicine has to surmount. In proportion as persons are in the habit of using remedies, composed according to the Galenic pharmacopœia, it is impossible to ascertain the true properties of any of the ingredients. The ancient school of Cos employed only simple remedies; and if we do not renounce the present dangerous exuberance (*luxe*), science must remain where it is; overwhelmed with pretended riches, it is unable to make any use of them. Instead of celebrated electuaries, and compound decoctions, simple chemical preparations ought alone to compose the materia medica."

In another place, he remarks, that "the stationary condition of the curative art is principally to be attributed to the complex nature of our medicaments (*a la polypharmacie*). We are too apt to prescribe many substances at the same time, rather than trust to simple formulæ; so that when a prescription has produced some good effect, it is impossible to decide by which, among the various ingredients, that effect has been produced."

M. Dupuy observes, that a simplification of the materia medica was impossible with early veterinarians, because they were deficient in experience and observation; and anatomy and physiology were little known. The case is altered now, and we shall be inexcusable if we continue to unite very different substances in the same formula, without endeavouring to determine which are the drugs that render that formula valuable. If, when bark began to be employed as a febrifuge, many other medicaments supposed to possess a similar virtue had been added to it, is it not evident that it would have been difficult or impossible to have recognized and established the efficacy of bark in the cure of intermittents?

Our old hippiatrists, following the errors of their brethren of human medicine, entertained the most absurd ideas of the effects of medicines. They supposed that each substance had its post

in the animal economy, and where, left to itself, it would exert its power. Did they wish the medicine to act sooner or more powerfully, they added a substance which was capable of fixing it. Did they wish that its efficacy should be more diffused, they associated with it a drug which was able to open for it a further passage. Some medicaments ran through the system with too much rapidity—others were too slow in their operation: it was necessary to retain the first, and to quicken the action of the second. They added to their formula substances which possessed these properties. They had ingredients to guide the principal remedy and to prevent it from wandering, and these guides or sentinels very opportunely quitted the principal remedy when it was near the part on which its power was to be exerted.

With principles so accommodating, and yet so loose and vague, they were never embarrassed, for they had drugs prepared to operate under every circumstance of disease. They had at their command medicines to cure even incurable diseases. Their materia medica was composed of an incoherent mass of opinions in themselves incoherent. Veterinary science was a rude collection of incorrect ideas, puerile observations, illusory means, and formulæ as fantastically conceived as they were fastidiously collected.

It has been rightly said, that it would not only be a useful thing, but that it is absolutely indispensable, to simplify the veterinary materia medica; but no one has pointed out the method by which this important result can be accomplished.

Messrs. Huzard and Desplus, when giving us some excellent instruction on epizootic maladies, in 1796, affirmed that it was time to recal animal medicine to the simplicity from which it should never have been permitted to wander. Base cupidity alone has prevented the practitioner from following this wise counsel: and what has been done? We have continued to collect from every quarter monstrous and complicated formulæ, and veterinary medicine yet dwells in the domains of empiricism and mere routine.

What course shall we pursue to avoid the reproaches of Bichat, and simplify our practice, as he advises veterinary surgeons to do? Instead of giving the reins to imagination, let us study by the aid of observation and experience the action of every simple medicine on the economy of our domestic animals; let us inject them into the veins, by which means we shall be able to verify all that has been said of each drug. In the mean time, let us simplify the materia medica. It will be an economy of time and of money.

We may conclude these observations by remarking, that the art of prescribing depends not only on a knowledge of

disease and the effect of medicines, but of the laws of chemical affinity. Let us take the acetate of lead, which is decomposed by the alkalis, æther, the mineral acids, borax, alum, soap, antimony, and astringent infusions; or corrosive sublimate, which is decomposed by the alkalis, soap, sulphuret of potash, astringent substances, and some metals. These two examples will be sufficient to shew that the chemical affinities ought to be taken into great consideration when we prepare our medicines. By pursuing this direction, we shall purge our practice of a crowd of puerilities. We shall no longer imagine that we have arrived at the summit of the art of healing, when we have fatigued our memories by learning that one herb is vulnerary and another detersive, and a third cephalic, and a fourth carminative*, or recollecting the contents of the sympathetic powder, and the universal powder, and the grand electuary, or attributing virtue to the right wing of a pigeon, or the foot of an elk, or the left foot of a tortoise, or the liver of a mole.

We shall have a materia medica less boasting, of fewer medicaments, but the action of each of them certain, and the result of experience. We shall be able to determine the circumstances under which medicines exert their full influence. Our experiments will be conducted with order and precision; we shall be enabled to ascertain what belongs to the medicine, and what depends on the influence of the vital and nutritive powers. We shall not content ourselves by replacing one hypothesis by another: we shall not think that we have advanced the science by changing some denomination, or modifying some division. Our books will not become more numerous without increasing the circle of our knowledge; our ideas will not remain the same, only otherwise strung together. The age in which we live does not permit us to follow so disgraceful a course. The progress of comparative anatomy and of physiological and medical science will render us inexcusable, if we are not illuminated by the lights which are beaming around us.

* Among English veterinarians, White, in the second volume of his valuable but incongruous work, speaks of Abluents, and Absorbents, and Alexipharmics, and Alteratives, and Analeptics, and Anodynes, and Antiseptics, and Antispasmodics, and Attenuants, and Carminatives, and Cathartics, and Caustics, and Cordials, and Demulcents, and Deobstruents, and Detergents, and Diaphoretics, and Digestives, and Diluents, and Emollients, and Emulsions, and Errhines, and Escharotics, and Expectorants, and Febrifuges, and Fomentations, and Fumigations, and Hydragogues, and Laxatives, and Liniments, and Oxymels, and Pectorals, and Relaxants, and Refrigerants, and Resolvents, and Restringents, and Roborants, and Rubefacients, and Sedatives, and Sialogues, and Stimulants, and Stomachics, and Styptics, and Unguents, and many other strange things, disgraceful to our profession, but profitable to the writer or the publisher, for his Treatise has reached nearly twenty editions.

APPOINTMENT OF A VETERINARY PROFESSOR AT THE UNIVERSITY OF GLASGOW.

Mr. CASTLEY, in his interesting account of the Edinburgh Veterinary School in our number for June, page 305, remarks, that "Our art seems to sink beneath the dignity of collegiate science: that there is no room for Mr. Dick's chair within the walls of the great, the proud University of Edinburgh. The elder sister appears to disown the relationship, or, secretly ashamed of the Cinderella, scarcely acknowledges the connexion."

We have great pleasure in observing that it is not so in every university north of the Tweed. The *Glasgow Courier* of September the 22d, in its account of the meeting of the Trustees of the University in that city, gives the following paragraph:—"Mr. Cheetham was thereafter unanimously elected Professor of Veterinary Surgery." If our art in the south "falls so far short of the estimate we formed of it when we first embarked in it," it is gratifying to observe that in one university, at least, in the north, its importance is recognised. When we consider the number and value of the patients of the veterinary surgeon, and reflect that every gentleman, and every tradesman possessed of competency, will, at some period of his life, spend a portion of his time in the country, and be possessed of some of these animals, and how pleasant and advantageous to him it will be to have some idea of their nature and structure, and value and general treatment, we are surprised that this has not formed a portion of the system of general education: and sure we are that the important elucidations of physiology and pathology, which must necessarily result from the variations of function and the variations of disease, and the varied treatment of disease in so many animals as those which are included under the name of domestic, and the light which must be reflected on medical science, ought to give, and will ere long give, the veterinary surgeon a chair in every medical school. We trust that the sister universities in the north, and that those also south of the Tweed, will not be slow in following this laudable example. It will be a happy æra for our profession when its importance is thus acknowledged, and its respectability thus vindicated. Our old school must then reform; the educated and competent practitioner will drive the illiterate and incompetent one out of the field, and the three-month's groom and mechanic will no more be heard of.—EDITORS.

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MR. YOUATT'S VETERINARY LECTURES.

As we have made arrangements for giving regular insertion to Mr. Youatt's veterinary lectures, we think it proper to include his introductory one, although somewhat similar to that which appeared in our numbers for December 1828 and January 1829.

At what period the diseases of domestic animals first became a distinct subject of study and practice, the records of ancient times do not inform us. Motives of humanity and interest would induce the possessors of the horse, and sheep, and cattle to think in what manner their usefulness might be increased, their diseases remedied, and their lives prolonged; but ages would probably pass away before knowledge of this kind would be digested into a scientific form and studied as a profession. If we are to believe the legends of olden times, Chiron the Centaur, the preceptor of Æsculapius the god of medicine, practised both human and veterinary surgery. His pupil, disdaining the alliance of the humbler art, confined his researches to the treatment of the ills of the human frame; and early history, for many a century, is silent as to the progress or even the existence of veterinary science. We find, however, that in the fifth century before Christ the study of the structure and diseases of domestic animals was fashionable in the country in which then seemed to be concentrated all the learning of the age. Hippocrates the father of medicine, and Xenophon the leader of the ten thousand, wrote on the veterinary art. The first, in accordance with his own profession, composed a valuable treatise on veterinary medicine, and including *all* the objects of the veterinarian's care. The latter, a soldier, confined himself principally to the general management of *the horse*, with a few medical hints, but those relating chiefly to the treatment of the feet. We may gather from

both of them that veterinary science was, at that time, held in due estimation, and that it extended to all domestic animals.

In the best ages of Rome our art eminently flourished. The father of the patriot Cato, and Terentius Varro, and the sweet poet Virgil, have left us treatises on veterinary affairs, interesting from the matter which they contain, from the illustrious names with which our art is associated, and from the testimony which each affords of what ought to be the extent and scope of the veterinarian's study and practice.

About the commencement of the Christian æra Columella produced a work on agricultural and veterinary matters; and, 300 years afterwards, we learn that veterinary surgeons were appointed to each cavalry regiment in the Roman service. They accompanied the victorious troops of Constantine when Byzantium was made the metropolis of the empire of the East; and the works which no less than seventeen of these army veterinarians have left behind them shew that they were, as veterinary surgeons of the present day ought to be, and will gradually become, men of education and science.

Of one of them, whose writings are peculiarly valuable, Absyrtus, we have the undeniable fact that he practised both as a human and a veterinary surgeon. This, indeed, would not suit the present very proper division of medical practice, nor would it accord with the princely emoluments of many skilful or fortunate practitioners, but we recur to the fact as a proof of the estimation in which our art was then held, and that in the chief city of the eastern empire, and as a refutation of the erroneous and most unjustifiable assertion, repeated and acted upon, that a man medically educated cannot make a good veterinary surgeon, and is peculiarly unfit to be a cavalry-regimental officer.

Sixty years after this flourished Vegetius, not a veterinary surgeon, but enthusiastically devoted to veterinary affairs; and he has given us a far better book than did any even of our brethren who had gone before him, and likewise on every branch of our art. His work contains much of the knowledge of present times, and the description of many a mode of practice lately vaunted as important discoveries; and he has added, and it proceeds from an impartial and a competent judge, and what every veterinarian proudly quotes, *Ars veterinaria, post medicinam, secunda est.* This is not the actual, but the proper station of the veterinary profession: may every veterinarian treasure it in his memory, an incentive to improvement, a check to presumption.

After this came the irruption of the Goths and Vandals, and a long night of darkness overshadowed both the medical and ve-

terinary professions. The practice of human medicine fell principally into the hands of the monks, for they alone could read Latin; and all the knowledge of the art of healing was contained in books written in that language. Some very strange associates were allied with them in the practice of physic—women, old and young. It was an essential part of the education of every high-born dame to acquire some knowledge of the healing art, and not only the mixing of potions and of ointments was committed to her, but even the setting of broken bones. On many a principle sufficiently satisfactory we can account for the success which often attended the practice of these fair surgeons.

There were other associates of a different kind. Shoes of iron had now began to be attached to the foot of the horse. These required mechanics, often rude and untaught enough, to manufacture them; and these persons, being occasionally employed about the horse, gradually obtained the sole management of him; and from their experience in the use of the instruments of their forges, they were often called in to the aid of the human practitioner: they were the principal operators; and the practice of medicine was degraded by many of their absurd and barbarous customs. Then wounds were healed by keeping them for ever open with tents and setons; hæmorrhage was stopped by searing the open vessels with a red-hot iron; and tumours were excised with heated knives; and lamenesses were fired, and often fired deeply, too, and beneath the skin; and, between the surgeon and his swarthy assistant, the patient too often suffered the most horrible tortures.

In process of time, however, the farrier was shaken off. It becomes not me to speak of the new associates of the surgeon, who kept little shops for cutting hair, shaving, and curing the wounded, nor of the long time that elapsed before the pure surgeon was enabled to dissolve partnership with these most unworthy personages; but the farrier was discarded. He, nevertheless, carried with him a portion of medical practice, and became slaughterer-in-chief in many a village; and, being abandoned by his somewhat more scientific companion, he stood confessed in all his native ignorance, and he even seemed voluntarily and rapidly to enshroud himself in yet thicker darkness; and, both in principle and in practice, he obstinately discarded every thing that was valuable.

At length, light began to beam even on this "dunnest smoke" of night. Awakened to their interests by the losses which they sustained in the most valuable of their agricultural property, and the absurdities and cruelties which they witnessed, several continental states established schools for the education of the

veterinary practitioner; and about forty years ago the foundation of the College at St. Pancras was laid.

From that period, the character and condition of the practitioner of veterinary medicine has materially improved. The rank of commissioned officer, when appointed to a cavalry regiment, gave him a station in society to which he did not before dare to aspire. Men of education united themselves to the profession, and obtained for themselves, and, in some measure, for their brethren, the esteem and confidence of the public, by scientific attainments and honourable practice. Whether all has been done that was justly expected, and might have been accomplished, is a question into which I do not here wish to enter. Perhaps the veterinarian over-rates his claim on the public,—perhaps he has not patience to await that gradual rise in public estimation which it required centuries to effect as it regarded the practitioners of human medicine, and, compared with whom, he labours under many a disadvantage;—perhaps he unjustly demands the respect of the public, while he does not strenuously aim to deserve it. It cannot be denied, however, that there has been something faulty in the management of those to whom the interests of the veterinary profession were entrusted. The education of the pupil has been far too limited. The knowledge of horse practice will not and cannot guide to that of cattle. The knowledge even of the horse cannot be acquired by magic. Five or six months will not transform the porter or mechanic into the man of science. Five or six months will give little knowledge that can be turned to useful purpose of the structure and diseases of the wide circle of domestic quadrupeds.

These, however, are subjects which I do not wish to agitate. It is necessary for me in this introductory lecture to glance at the present state of our profession; but, this lecture ended, I will not forget that my concern is with the education of the student, and the practice of the veterinary art; and, without abandoning a single principle which I have elsewhere avowed, or one of those objects in the attempt to accomplish which I have been permitted to ally myself with many of the best of my brethren, I pledge myself, that neither openly nor covertly, directly or indirectly, shall veterinary politics mingle with these lectures, but they shall be honestly devoted to the instruction of the pupil and the search of truth.

These lectures are designed, first and chiefly, for the veterinary pupil. If the metropolis contains more than twenty schools of human medicine, surely a second teacher may dare to embark in the humbler province of veterinary instruction. Disavowing all dishonourable and hostile opposition, surely I may

be permitted to devote my time and industry to what purpose I please.

Ours is a profession young in improvement. Its principles are scarcely fixed. Our list of diseases not agreed upon; the nature of many of them disputed; and the treatment of them as various as our conceptions of their origin. A lecturer on human medicine is enabled, and is expected, to give the result of the combined experience of the medical world; but so little has been the intercourse between veterinarians, until societies and periodicals have, within the last three years, brought us more together, that a lecturer among us can scarcely teach more than his own theory and practice, and those widely different, perhaps, from the theory and practice of many of his brethren. It will be advantageous, then, for the veterinary pupil from the college to learn what others think and do. A comparison of the statements and reasonings of different instructors will enable him to form a more correct opinion on many important points; and may save him the perplexity and mortification of discovering, when practice leaves him little time for study, how different are the principles which were once inculcated on him from those which daily experience and the testimony of others force on his mind.

If to my present course of lectures I add the horse, which was omitted in my last course, it is because some who then attended me will recollect how often I was compelled to refer to the horse for illustration of difference in the character and treatment of various diseases; and because circumstances have induced me somewhat to extend the scope of my lectures, and to address myself no longer exclusively to veterinary pupils, who could hear of the horse elsewhere, but to amateurs, who would justly expect that I should teach the structure and diseases of all domestic animals, and to whom the horse, probably, would be far more interesting than cattle or sheep; and because I should not be able to discharge my duty to the medical student, if I did not speak of the difference of structure, and function, and disease, and its treatment, in every animal that we have subdued.

I have, however, a better reason for looking to the veterinary pupil for some support, and even for my principal encouragement. The prospectus of the Veterinary College states, that "the grand object of the institution has been to form a school of veterinary science, in which the anatomical structure of quadrupeds of all kinds, horses, *cattle, sheep, dogs, &c.*, the diseases to which they are subject, and the remedies proper to be applied, may be investigated and regularly taught, in order that, by these means, enlightened practitioners of liberal education, whose whole study has been devoted to the veterinary art *in all*

its branches, may be gradually dispersed over the kingdom, on whose skill and experience confidence may be securely placed."

This is what a veterinary school ought to be. It should embrace every patient on which the surgeon may be called to practise; and, except in the metropolis and large towns, his patients of other kinds will be more numerous than the horse. There are five millions of cattle, thirty millions of sheep, four millions of swine, and two millions of dogs to be found in our island. There is but one million and a half of horses for all the purposes of war, agriculture, commerce and pleasure. True, the horse is the most valuable of our domestic quadrupeds; respecting him the owner is most eager to seek medical advice; and the operation of shoeing brings him, of necessity, oftenest under our care: but the others, by their numbers, will give frequent employment to the country veterinarian. How can he practise on their diseases if he has not been taught the nature and symptoms and treatment of these diseases? Will the most accurate horse knowledge avail? What disease in the horse will guide him in cattle to the treatment of dysentery, or inflammatory or puerperal fever, or foul in the foot, or red-water, or affections of the rumen or manyplus? or inflammatory fever, palsy, hydatids in the brain, inflammation of the brain, scab, rot, or foot-rot in sheep? or enlargement of the glands, or measles or leprosy in swine: or distemper or canker in the dog?

Mr. Youatt next entered into a lengthened detail of the difference in the character and treatment of the same diseases in horses, cattle, and other domestic animals, and the almost incredible difference in the dose and the effect of the same medicine employed in the treatment of different animals. He also spoke of the dearth of information on these subjects, no veterinary surgeon having written upon them, or seemed to deem them worthy of notice; and he quoted some of the absurd recipes which our books of cattle medicine contained. The substance of this, however, had been given in a former lecture, inserted in THE VETERINARIAN.

He then proceeded. On these grounds I may, with some confidence, appeal to the veterinary pupil for support; for the College, whatever may be its excellence as a school, is strictly limited to horse-knowledge; and we have seen that no knowledge of the structure and diseases of the horse can guide to the treatment of the diseases of cattle. There is this circumstance also to be taken into consideration—that the diseases of cattle and sheep are more inflammatory in their character, more rapid, and far more fatal than those of the horse. *The blood* (inflammatory fever) will carry off the animal in twelve or twenty-four hours. Dropping after calving (puerperal fever), of which the

mare knows little, is often as rapid in its progress. Many thousands of cattle, and some hundreds of thousands of sheep, die annually of these diseases. Then the rot, as fatal to the sheep as the plague to the human being—what school on this side the Tweed teaches the nature or the treatment of it? What veterinary surgeon has written on it? More than two millions of sheep died of the rot in the last winter. The father of one of my pupils lost five hundred. Have I any specific to propose for the cure of these maladies? I wish I had. At least, however, I may be enabled to give the pupil some glimpse of their nature; I may set him a thinking and experimenting; and I may possibly give him some hints not altogether unimportant as to the preventive, and even the curative treatment of these pests.

At the veterinary schools in every other part of Europe the pupil is qualified for the proper treatment of all his patients. Common sense would demand that it should be so. North of the Tweed, Mr. Dick has established a school at Edinburgh, under the patronage of the Highland Society of Scotland, in which the diseases of all domestic animals are ably treated of. It is the same at the University at Glasgow, where the veterinary lecturer is permitted to occupy a Professor's chair. If the governors choose that the College at St. Pancras shall be a school merely for horse knowledge, and the subscribers will send there nothing but horses, the governors and subscribers may make it what they please, and I do not know who has a right to complain, unless the College attempts to delude the public or the pupil by promising that which it does not and cannot perform. It must cease, however, to be fully considered as a national institution; for the agricultural interests of the country imperiously require that a school should be established which will condescend to consider the maladies of cattle and of sheep; and which will attempt to arrest the too frequent ravages of disease among these animals. The time cannot be far distant when either government will interfere, or agriculturists generally will awake to a sense of their most important interests, or some spirited individuals will establish a school, not standing disgracefully alone amidst the veterinary establishments of Europe, but identifying itself with the agricultural interests of the kingdom, and protecting the most valuable part of agricultural property.

My cards promise some outline of the Veterinary Materia Medica. This will include the natural and chemical history, and medicnal properties, of the drugs used in veterinary practice, with their various effects on different animals, and the proper dose for each; and also a history of the adulterations to which, in the present disgraceful state of the drug trade, they are liable, and the

method of detecting each adulteration. This has not yet been included in the instruction of the veterinary pupil. There are no lectures or publications which afford this information, indispensable to the veterinary student, and exceedingly interesting, and abounding with many a useful hint to the human practitioner.

I have spoken likewise of illustrating certain portions of physiology by philosophical and chemical experiments. I will be careful that this most seducing method of instruction shall not carry us too far; but the striking effect of oxygen on freshly drawn venous blood may explain, and indelibly stamp on the memory, the change which the blood undergoes in respiration—an experiment or two in mechanics may elucidate the percussive action of the heart on its contents—a reference to some simple principles of hydraulics may elucidate the circulation of the blood through its various vessels—the effects of galvanism may beautifully illustrate the various modifications of nervous influence in respiration, digestion, and muscular motion—the laws of optics may render plainer the mechanism of the eye; and the theory of the lever may render evident to every capacity the relation between conformation and action, and the perfect adaptation of the various parts of our domestic animals, and of the horse particularly, to the purposes for which this were designed.

[To be continued.]

ON BREEDING.

By Mr. KARKEEK, *of Truro.*

[Continued from p. 493.]

"NOTHING in the animal economy," said Galen*, "is ruled by invariable laws, or can be subject to the same accurate results and calculations as an inanimate machine." All domestic animals have a tendency to degenerate, or to regain the original stamp which nature assigned them; but this inherent tendency to change is counteracted by cultivation, and by selecting individuals to breed from; which is opposing, in fact, art to art. The same circumstance is seen in vegetables: the golden pippin of our gardens would soon be converted into the austere crab of the woods, and the numerous varieties of the plum would quickly degenerate to the native sloe, were we to attempt to propagate them by seed instead of preserving their variety by

* Nil est in corpore vivente planè sincerum.

grafting. Thus, in both animals and plants, it is only by a judicious selection of individuals that any variety can be rendered permanent.

In the selection of the male and female for breeding we must be guided in our choice, principally, by their possessing those specified forms that constitute "beauty," which, as we have already stated, implies some useful corporal quality.

Many persons adapt their ideas of perfection agreeably to the peculiar properties of their own horse; each appears best pleased with his own, and says

> "My horse * * *
> * * excels a common one
> In shape, in courage, color, pace, and bone."

This diversity of opinion arises solely from the circumstance of there being so many excellent horses that possess forms and relations very different from what have been laid down as rules for observance in their exterior conformation. It is a piece of absurdity to prescribe dogmatical rules or codes for the purpose of regulating the operations of nature, when, even in the same breed, we observe innumerable varieties capable of the most extraordinary exertions, and which do not come within the prescribed rules. There are few rules that can be laid down for observance on the general conformation of horses better than those which were inculcated by *Xenophon*, *Sophocles*, and *Virgil*. They held those horses superior to all others which have a broad breast ("*animosum pectus*"), a small head ("*caput argutum*"), short and pricking ears ("*micat auribus*, ὀρθὸν ὦυς ἴςησιν"), wide nostrils ("μυκτηρες αναπεπταμενοι"), and a wide round back ("*obesa terga*"), and who, like the "ςατος ἵππος" of the Mæonian, with playful alacrity provoke the rest to fight on the plain, unhesitatingly to leap the wide ditch, or cross the deep marshes.

The external forms of horses were well studied by the ancients; but we question whether they were aware, that the external form was only an indication of the internal structure. The principles of improvement must consequently depend on a knowledge of the organization and use of the internal parts.

The lungs are of the first importance; it is on their size and soundness that the strength and health of an animal chiefly depend. The power of converting food into nourishment is in proportion to the size of the lungs; as a horse possessing large lungs is capable of changing a certain quantity of food into more nourishment than one with smaller lungs. Narrow-chested horses are seldom powerful or durable, though they may possess great speed for a short distance. "The external indications of

the size of the lungs are the form and size of the chest, the form of which should approach to the figure of a cone, having its *apex* situated between the shoulders and its *base* towards the loins. The capacity of the chest depends on its form more than on the extent of its circumference; for where the girth is equal in two animals, one may have much larger lungs than the other. A circle contains more than an ellipsis of equal circumference; and in proportion as the ellipsis deviates from the circle, it contains less. A deep chest, therefore, is not capacious, unless it is proportionately broad. The most expeditious way to obtain horses with large lungs is to cross well-formed females from a variety of a large size, with well-formed males of a variety that is rather smaller. By such a method of crossing, the lungs and heart become proportionately larger, in consequence of a peculiarity in the circulation of the fœtus, which causes a larger proportion of the blood, under such circumstances, to be distributed to the lungs than to other parts of the body: and as the shape and size of the chest depend upon that of the lungs, hence arises the remarkable large chest which is produced by crossing with females that are larger than the males*."

This practice may be a profitable one to breeders of cattle, but certainly ought not to be carried too far by breeders of horses, except for those horses who are employed to move heavy loads; since the bulk of the body might be so disproportioned to the size of the limbs as to prevent the animal moving with sufficient facility: for in proportion as you increase the size of the chest, you diminish the animal's speed. An example of this is seen in the bull-dog and greyhound: the former is distinguished for his broad chest, his strength, and disposition to fatten on small quantities of nutriment, but wants that agility and swiftness of foot so characteristic of the breed of the latter.

A very wide chest is usually accompanied with what are commonly called "thick or heavy shoulders:" the cause is owing to the shoulders being so far apart as to give them an overloaded and muscular appearance. The shoulder-blades ought to be muscular, yet not overloaded with flesh: if too lean, they want strength; if too heavy, they impede progression. They should rise high up to the withers, gently inclined backwards, and so beautifully adjusted, that in descending a hill the point never ruffles the skin.

There are few rules that can be laid down on the general conformation of the horse more to be relied on than this, that a short and upright shoulder, particularly if the whole limb is inclined

* Mr. Clinc's Observations on Domestic Animals.

backwards, is a sure mark of an unsafe goer, and generally of a slow one also.

The form of the *pelvis* should also be particularly attended to, it being requisite that this cavity should be large in the female, that she may be able to bring forth her young without difficulty. In many instances the life of the mother has been endangered in parturition: it is, therefore, of great importance that brood mares should be what are commonly called "roomy mares," particularly as they make the best nurses.

The formation of the *head* also requires attention, as nothing indicates the good qualities and good breeding of an animal so much as a small head. The "*caput argutum*" of Virgil has hitherto been translated "a small or a slender head;" but there are few words in the English language that better express their meaning than the Newmarket technical phrase, "finished head," sometimes called a "killing head," which is thus aptly and beautifully described by a living Poet:

> "The projecting eye
> That to the stander near looks awfully;
> *The finished head*, in its compactness free,
> Small and o'erarching to the lifted knee;
> The start, and snatch, as if it felt the comb,
> With mouth that flings about the creamy foam;
> The snorting turbulence, the nod, the champing,
> The shift, the tossing, and the fiery tramping"*.

The head and neck contribute more than all the other parts the body to give a graceful appearance. To obtain horses with light heads and necks, particular care is required in selecting mares possessing those requisite qualities; for if the offspring bears any likeness at all to the mother, it is chiefly confined to the anterior parts of the body. The well-known adage, that "like produces like" is certainly very applicable to breeding; and he who has paid the least attention to the subject must be aware, that there is a greater chance of obtaining animals possessing certain requisite qualities from a sire and dam who possess them in an eminent degree than by breeding from those whose qualities we are ignorant of. Thus, for breeding race-horses, both sire and dam should be "excellent goers"—equal, if not superior to all their contemporaries, before they should be considered as fit and proper subjects to regenerate anew the qualities they possess. Notwithstanding, many capital runners have proved bad stallions, whilst many good stallions have proved bad runners. The same may be said of mares: many "excellent goers" have failed as brood mares;

* Story of Rimini.

and we believe, on a reference to the "stud book," it will be found that a greater number of winning horses have been produced from mares who have never raced than from those who have; yet the chances are in favour of those who have proved themselves good ones on the turf, when we consider the extraordinary exertions that they have been obliged to make from the early age, probably, of two or three years old. We ought not, therefore, to consider what they have not done, but what they might have done had not their constitutions been so much abused. What particularly recommends this method as the safest and the best, is, that many horses seem to possess good racing qualifications—such as muscle, length, and power, justly united, and their forms may be perfectly handsome, yet from some constitutional defect—such as want of bottom—they have been so distressed in running as to be beaten by others who do not possess the same external advantages of shape and figure: hence the attention that is necessary to be paid by breeders to "symmetry" must not take the precedence of "blood."

This leads us to another PRINCIPLE on which the improvement of animals depends. The word blood must be considered synonymous with race, breed, descent, &c.; it being used to express the natural, fixed, and inherent properties of a breed or kind. "Its utility for the purposes of the breeder is, therefore, to enable him to discriminate with greater nicety and correctness in the selection of such animals as are most adapted to the improvements he has in view."

The Arab attaches great importance to "blood:" he preserves the pedigrees of his horse and mare more carefully than his own; and never allows any ignoble blood to be mixed with that of his valuable breeds. He is well aware that mental qualities, as well as personal qualities, are propagated by breeding. This is very plainly seen in the various crossings between the black and white races: children produced from the copulation of different races exhibit the middle between the two tints of their parents. This law holds good universally, not only by the superficial characters of colour, hair, &c. but all other physical and moral qualities are equally influenced by those of the parents. "The intellectual and moral characters of the Europeans," says Mr. Lawrence, "is deteriorated by the mixture of black or red 'blood;' while, on the other hand, an infusion of white blood tends in an equal degree to improve and ennoble the qualities of the dark varieties." The same takes place in the vegetable creation: the tastes and properties of fruits are considerably altered by artificially impregnating one with the farina of another of the same class. The hereditary transmission of native

peculiarities is sometimes seen after a lapse of many years. "The pedigree of many of our present racers can be satisfactorily traced back for one hundred and fifty years; and many so recorded have never received one impure admixture;" and there exists at the present time many eminent turf-breeders, who maintain that they can detect even the slightest cross in *form* and *qualities* to the sixteenth generation.

A singular instance of the effects of a mixture with the native blood is seen in the descendants of Sampson. He was a large powerful animal, not unlike a carriage-horse: he beat all the best horses of his time; nor was he ever beaten, or even whipped, till his sight and health failed; when he was conquered by a horse which he had beaten twice before. His pedigree appears unexceptionable in the stud book; yet there is not a doubt that there is a flaw somewhere, which is probably owing to his possessing some of the "Cleveland bay" blood. His immense size, as well as excellent qualities, are seen at the present time in a number of our leading stallions and brood mares, who are descended from him.

It is a very common opinion, that pedigree should only be attended to by breeders of racers, and that it is of little consequence to breeders of hunters or roadsters. It certainly cannot be of much importance to the latter, in a racing point of view; but as one of the means of effecting improvement among those valuable animals, we consider it to be of the most essential benefit. Where the greatest care is employed to keep the breed of animals perfect, disappointment oftentimes ensues. Colts do not always resemble their parents; thus the general law, that animals produce their like, by which uniformity of species is maintained, suffers some exceptions; for instead of exhibiting, as is usually observed, the outlines of each parent softened and blended together in equal proportions, they may be seen like their grandsires. This is plainly observed in the human subject. "Children," says Mr. Lawrence, "may be seen like their grandsires, and unlike the father and mother.

> 'Fit quoque, ut interdum similes existere avorum
> Possint, et referant proavorum sæpe figuras.
> * * * * * * * *
> Inde Venus varias producit sorte figuras,
> Majorumque refert vultus, vocesque comasque.'
>
> *Lucret.* lib. ii.

"Thus it is possible that an African Albiness and an European may produce together a true mulatto, the offspring receiving its dark tint through the mother, although she has it not herself. The offspring of a black and white may be either black or white,

instead of being mixed; and in some rare cases it has been spotted."

Those are strong arguments in favour of pedigree, and which shew the necessity of the breeder's making his selection of such individuals as are most conspicuous for their descent; for it cannot be denied that an old family, which has preserved its name and character for many generations, must have possessed a very solid one, or in the course of time it would have been shaken away.

"Fortes creantur fortibus et bonis:
Est in juvencis, est in equis patrum
Vertus: nec imbellem feroces
Progenerant aquilæ columbam.

From valour, valour springs, from merit worth;
The generous steer, the *courser prove*
The virtues of illustrious birth;
Nor do fierce eagles breed the timid dove."

One of the causes that have tended to deteriorate the breed of hunters and hackneys is attributed to the encouragement given by gentlemen of the turf to the production of a breed of horses, in turf language ycleped "cocktails"—animals wanting the strength, activity, and mildness of the hunter, but possessing generally all the defects of the blood-horse. Such a breed cannot improve the former, and certainly can be of no service to the latter. This is one of the causes; but the principal cause is quite different. Our race of thorough-breds are (and we will endeavour to prove it by and bye) at a higher state of perfection than ever they were; but this is not the case with hunters and roadsters. If the same care was taken of the breed of the latter, by selecting none but mares and stallions that are conspicuous for pedigree, symmetry, temper, and constitution—in short, all those points that are most likely to produce the required qualities, as is practised by breeding thorough-breds—we should not long have to complain of the lack of useful and serviceable horses.

"Alike their labours, each alike requires
Spirit and youth, and speed that never tires."

We have already stated, that breeding cannot be reduced to a certainty; but that is no reason why it should be left to chance. We have never yet met with a bad-shaped mare and stallion producing a fine offspring. Therefore unless the sire and dam possessed those essential points that are most likely to produce the necessary qualities in their progeny, we would not breed from them,

"Though oft they chased the foe, or vaunt their breed
From Argos, or the sea-god's earth-born steed."

One would suppose that the doctrines of Hamme and Leeuwenhoek actually prevailed, even at this enlightened period, when we see breeders paying very little attention to the female, whilst all their discrimination and judgment appears to be exercised in choosing the male, under the supposition that the embryo is formed entirely by the male, and brought into action by a stimulus from the female; they considering the latter to be a mere *hot-bed* for bringing the fœtus to maturity.

Some of the French veterinarians are staunch supporters of this doctrine. M. Godine, jun. says, alluding to the comparative influence of the male and female in breeding, " that the English are indebted for their superior breed of horses entirely to their judicious choice of the males." The part of the females in the great act of reproduction, he considers, " is limited to perform the same office that the earth does for vegetables; she is commonly nothing more than a receptacle in which is deposited the seed of generation:" " such," says he, " is the opinion which has arisen from my researches and experiments on the subject; and here behold," he continues, " is the *whole secret of the English*; let us imitate them; let us have their *perseverance*, their *sagacity*, and we shall also arrive at the same results." This author really appears to have made a most wonderful discovery; and his countrymen may congratulate themselves in possessing the clue that will instruct them in an infallible method of breeding.

Reformation has, in a most unprecedented and extraordinary manner, taken place in the military, the civil, and the legislative institutions of France. We beg most humbly to recommend to the *King of the French* a reform also in their breeding department. We have elsewhere stated, that France is very inferior to England in respect to her domestic animals: various have been the opinions formed on the subject. We think that little more need be said on the subject, after the miserable specimen exhibited of the French method of breeding. It is a subject of surprise, that in times so highly enlightened as the present, when many antient prejudices are gradually flitting away, as reason and science dawn on mankind, that we should meet with such gross ignorance. Well may M. C. Dupin recommend that the 40,000 ecclesiastics at present scattered over the surface of the country should be employed in giving the rural inhabitants of France more correct ideas as to the principles on which the health and vigour of their domestic animals depend, in order to correct the faulty system at present employed. But we cannot suppose for an instant that the Leeuwenhoek doctrine generally prevails in that enlightened country. We are, therefore, inclined to consider the low and mean state of agriculture to be one of the principal

causes. The superiority of English agriculture over that of France and most other continental states may chiefly be attributed to the different plan that has been followed in England with respect to the letting of land.

The limits of this paper prevent us from entering into a discussion on the "METAYER SYSTEM;" indeed there can be no occasion, for we need only to be acquainted with the practice, that the lands are let by proportional rents—that is, by the occupier paying a certain proportion, generally a *half of the produce*, to the landlord, the latter sometimes furnishing the tenants with the oxen and other cattle used in farming, and a portion of the seed—to pronounce, *à priori*, that such a system is ruinous in the extreme.

The "Metayer system" is also spread over almost all Italy, Tuscany, and Lombardy, where it is equally injurious as in France; for it is an impossibility that the domestic animals of any country can be in very high perfection when the soil which they inhabit is cultivated by a beggarly population, without either skill or capital, and who, though they possessed both, if employed, must be chiefly for the advantage of the landlord. We conclude this digression in the words of Baron Louis, the present Minister of the Finances, in a debate relative to the "*Contributions Indirects*," that "France is a fine and rich country; but the true key of prosperity, is to know how to apply those sources of her riches."

But to return to our subject. Most of the causes which contribute to the formation of a living body have hitherto eluded research; yet there are few subjects that have afforded more materials for controversy; so true is it, as Condillac has observed, "that we have never so much to say as when we set out from false principles." Thus, those parts of nature which are hidden from our view, and perhaps beyond human comprehension, afford the greatest scope to our imagination. It would be engrossing too much of your valuable publication to enter into an historical account of the theories and observations of the different antient and modern authors who have written on the interesting though ambiguous subject of the multiplication and succession of animated beings: we shall, therefore, briefly state, that the most rational physiologists appear to agree, that the embryo is formed by the joint operation of the two sexes, by a system of organs directed by laws and prompted by stimuli, with many of which we are as yet unacquainted.

In all animals the incipient embryos are very probably neuters, and the sex determined according to the predominancy of the male or female stimulus on the parts.

The disposition and likeness, also, very probably depend upon the difference of ardour in the parties; on the fancy, the passions, the particular state of the system at the time, and a thousand circumstances, besides the age and the usual or general habit of the body. "The more the male is superior to the female in strength and the energy of his physical powers, the more will his produce share his character and appearance; whilst the colt of a vigorous mare bears, on the contrary, the likeness of its dam, if the stallion possesses a weak constitution."

Since, then, it is agreed upon, that the embryo is formed by the joint operations of the sire and dam, it must be obvious that a proper and systematic union of the necessary characters of both must be requisite to produce an offspring possessing their joint qualities. It is by pursuing this method that our present breed of racers have been brought to such high perfection. The breeders of thorough-breds have never crossed into an inferior blood; being well aware that animals, when equally matched, are endowed with the faculty of propagating an offspring that has, in a considerable degree, the *properties*, *dispositions*, and *resemblance* of the parents.

Accidental varieties will sometimes take place; for there is no arriving at a certainty in breeding, such is the darkness with which nature has enveloped this great mystery of the living economy. The Bedouins appear to have been perfectly aware of the influence of the mare in breeding: hence one of the first blood* is of much more consequence and of more value to them than a stallion. "They are not near so nice in the choice of the stallion as the European breeders; for they ascribe the good qualities of the colt rather to the dam than to the sire. Their fillies are, therefore, reared with the greatest attention, whilst their colts are oftentimes kept in a half-starved state till twelve or eighteen months old, and then sent to be sold to the Europeans residing in India, or to the townspeople, or Fellahs of the neighbouring towns.

"The price of an Arab horse in Syria is from ten pounds to one hundred and twenty: an Arab mare can scarcely be obtained under sixty pounds; and the Arabs themselves often pay as much as two hundred pounds for a celebrated mare. The price has amounted to more than five hundred pounds."

These observations, extracted from that learned and enterprising eastern traveller, Burckhardt, who appears to haye paid particular attention to the nature and management of the Ara-

* The Bedouins count five noble breeds of horses, descended, as they say, from the five favourite mares of the Prophet. Taueyse, Manekeye, Koheyl, Saklaivye, and Diylfe.

bian horses, shews that their principal reliance in breeding those truly valuable animals is in the choice of their mares*.

"I like practical knowledge, and I care not where it comes from," says Mr. Castley. "Horses may be said to constitute the whole of their (the Arabs) property, their stock in trade. Breeding and rearing these animals is the business of their lives, and has been for many ages back." Almost every page in the stud book bears witness to the influence of the female in breeding; and proves that as much, if not more, depends on her good qualities than on the male.

The influence of the mare in breeding is strikingly seen in the extraordinary qualities of Eclipse, which never could have sprung from Marske, his sire, who was considered one of the worst racers of his day; but from his dam Spilleta, whose sire was Regulus, got by the Godolphin Arabian. It is true that Marske got many excellent runners beside Eclipse; but this may be chiefly attributed to his having had the best mares which the country possessed sent to him, after his son's extraordinary performances. The extraordinary speed of Flying Childers, who never had an equal, is also supposed to be derived chiefly from his dam Rachel†. "She was likewise the dam of Mark Anthony, Muslin, Dunny, Antonia, Dorilas, &c. &c. Mark Anthony started twenty-eight times, and out of which he won twenty; and the sums he won in stakes, matches, plates and forfeits amounted to eight thousand five hundred and forty-seven guineas. He broke down when six years old, and never ran but at Newmarket."

"The compact between them" (the male and female) says Mr. Blaine, "is mysterious, yet influential and intimate, as numerous phenomena in gestation shew it to be." This gentleman strongly urges the necessity of the breeder to make his selection of both sire and dam with equal care; and highly censures those who, careless about the dam, breed from any mare they happen to possess or can procure, though it may even be unfitted for work by disease or age; and expect, provided they gain a leap from a tolerable stallion, to procure a valuable progeny,

> "Seu quis, Olympiacæ miratus præmia palmæ,
> Pascit equos, seu quis fortes ad aratra juvencos,
> Compora præcipuè matrum legat."
>
> "Who, for the Olympian palm the courser rears,
> Or breeds to bear the yoke, resistless steers;
> With prescient care, the destined mother trace,
> *And form'd like her, expect the promised race;*"

* An Arab sometimes vows that he will sacrifice a camel to God, if his mare should bring forth a female: in this case he slaughters the camel, and its flesh serves as a feast to all his friends.—*Burckhardt's Travels.*

† Nic^{s}. Hanckey Smith's observations on breeding.

was the advice of our favourite author Virgil; and he may be justly allowed to have had some practical knowledge on the subject, as his first visit to Rome procured for him an appointment in the royal stables, in consequence of his skill in the cure of diseases incidental to horses; and his poems, which are justly esteemed the most finished pieces of antiquity, shew how thoroughly he understood the science of husbandry and agriculture, the different properties of animals, the secrets of arts and sciences, and of nature itself. In short, his knowledge seems to have had no other bounds than those of universal nature.

[To be continued.]

ON COFFIN-JOINT LAMENESS, AND THE OPERATION OF NEUROTOMY.

By Mr. Moorcroft.

[Extracted from the Calcutta Journal.]

To the Editor of the "Calcutta Journal."

Calcutta, March 26th, 1819.

Sir,—With reference to your paper of the 23d instant (columns 803-4), noticing as discovered by Mr. Sewell, within about the last eighteen months, a cure for a lameness in horses, commonly called Coffin-Joint Lameness, I beg leave to observe, that the mode of treatment alluded to, so far from being a discovery of the last eighteen months, was practised by me about eighteen years ago.

About twenty years ago I was sedulously engaged in endeavouring to detect the causes of the lamenesses in the fore feet of the horses in England. This enquiry was pressed upon me by their frequency; by my insufficiency to afford permanent relief in many instances; and by the vast loss resulting from horses being reduced, through permanent lameness, often to one-third of their first value. For a long time previous to this period it had been fashionable to attribute most lamenesses in the fore limb of the horse (of which the causes were not glaringly obvious in alteration from natural form) to some disease in the shoulder, imperfectly understood: but it was become fashionable at that time to impute the same kinds of lameness as generally to a contracted condition of the foot; and, in truth, I was more instrumental in generalizing this assumption of cause than consisted with subsequent experience, for this experience shewed that, although the

removal of the contraction, in some instances, wholly removed the lameness, in others it totally failed. In some cases it appeared that a contracted state of the foot was itself an effect of other injury, though when existing in a great degree it tended to increase the lameness. A comparison of great numbers of foot lamenesses in process of time furnished grounds of observation by which it could be predicted, almost with certainty, whether the removal of contraction would fail or succeed to remove the lameness.

This distinction, available for preventing loss and disappointment, formed the first step of an approach towards improvement in practice. The removal of contraction was effected by more than one process; but no process was found capable of removing, permanently, certain kinds of lamenesses.

On dissecting feet affected with these lamenesses, the flexor tendon was now and then observed to have been broken, partially or entirely; but more commonly to have been bruised and inflamed in its course under the navicular or shuttle bone, or at its insertion into the bone of the foot. Sometimes, although seldom, the navicular bone itself has been found to have been fractured; at others, its surface has been seen deprived of its usual coating, and studded with projecting points or ridges of new growth, or exhibiting superficial excavations more or less extensive.

To detail farther varieties of diseased change of structure observable on dissection in parts connected with the joints of the foot, and arising from injury by mechanical violence, seems unnecessary. They have all the character of being accompanied with inflammation and pain, which seldom permanently terminate except with the death of the animal. It is acknowledged that those parts which, in their healthy state, are endued with a low degree of sensibility, are greatly tenacious of sensibility when it is excited beyond a certain point. A man with a bruised or inflamed tendon can place it, wherever situated, in a state of rest favourable to the dispersion of the inflammation; but this is not the case with the horse when the flexor tendon of his fore foot has been injured and inflamed; for this tendon not only supports, passively, a certain proportion of the weight when the animal is standing and at rest, but actively, whenever the limb is put into the slightest motion; and the horse cannot possibly place the tendon in a state of repose and inactivity, except during the time he lies on the ground; and it is subject to pressure, invariably, both in his lying down and getting up.

This constant exposure to pressure, in addition to the nature of the parts injured, renders inflammation permanent, and prevents coffin-joint lameness receiving permanent relief. The horse,

indeed, guided by his feelings, relieves the tendon temporarily, in a degree, from pressure and pain, by pushing the foot forwards, raising the heel, and throwing a large portion of the weight of the fore part of the body on the opposite or sound leg. By this expedient, however, the heels of the diseased foot, though not being kept in action by the direct pressure of the limb, gradually approach each other, and the foot becomes smaller on its outer circumference, and narrower and more hollow on its lower surface, whilst the fetlock joint of the opposite leg, distressed by an over-proportion of weight, frequently inflames and thickens.

Foiled in attempts to remove coffin-joint lameness, by removing contraction through mechanical contrivance, modifications of temperature, and various actions of medicated applications, I was led to consider some less usual modes of diminishing the vital activity of the parts injured.

It was remarked, on dissecting coffin-joints thus diseased, that they were surrounded by a much greater proportion of blood-vessels, and that these were much more distended with blood than the same vicinity of coffin-joints uninjured. It was determined, therefore, to lessen the quantity and force of the blood supplied to a diseased coffin-joint by tying at the fetlock-joint one of the two arteries that carry blood to the foot: for by having tied one of the carotid or large arteries of the neck, the progress of inflammation of the brain was arrested, and the horse recovered: and before I understood the principles on which the cure of the spongy sore in the foot, called canker, ought to be conducted, I had tied a fetlock artery, in the view of checking immediate discharge of fluid, and with beneficial effect. One fetlock artery was accordingly tied in several cases of coffin-joint lameness, without any benefit. But as I had, in a single instance, tied both the carotids in inflammation of the brain, and the horse recovered, and was as useful as before the attack, I thought it justifiable to push the principle of diminishing the supply of the material of inflammation as far as practicable in coffin-joint lameness, by tying both the inner and outer artery of the fetlock. In no instance, however, were the horses subjected to this operation benefitted, but, on the contrary, contraction of the foot seemed to be hastened thereby, and lameness to be proportionably increased.

Finding that diminished supply of blood did not counteract the mischievous effects of pressure on the inflamed tendon, I turned my thoughts towards subduing its increased sensibility by diminishing the proportion of nerve naturally distributed on the foot. On this principle, I raised the outer nerve of the fetlock joint out of its bed by a bent probe, and cut it across with

a pair of scissors. This was done in several instances, and always with immediate and decided lessening of lameness; frequently, indeed, the animal, when he rose from the bed, appearing perfectly sound: but the result was not uniformly and permanently successful, relapse of lameness occasionally taking place after a period of soundness for some weeks, and as often at grass as at work. This was attributed to re-union of the cut ends of the nerve; and in subsequent operations, therefore, about a quarter of an inch of the lower division of the nerve was snipped off. The performance of the operation was expedited by pushing under the nerve a curved knife, with a crooked beak like a bent probe, which brought the portion to be divided quickly and singly against the cutting part of the blade; and the facility and expedition with which the division was effected, induced a display of dispatch in operating which was most severely punished.

A horse with coffin-joint lameness being thrown and secured, the nerve on the outside of the fetlock bared by two strokes of a round-edged knife, was cut across with the crooked knife. The operation took up a few seconds; but at the instant the nerve was divided the horse made a violent and sudden exertion to disengage himself. A crash, as if from within his body, was heard by the bystanders, and my intelligent assistant felt the shock of internal fracture as he lay over the animal, and whispered in my ear that the horse had broke his back. This, in fact, had happened, and the animal was destroyed with the consent of the owner, Lord G. H. Cavendish, to whom the circumstances were recited.

The muscles of the back, thrown into violent contraction by the shock consequent on the sudden division of the nerve, had broken the body of one bone of the loins, right across through its whole substance, and fractured the lateral processes of several other bones of the same part. This fracture could not have happened if the body and limbs had been at liberty; and perhaps nothing but the sudden division of a large nerve could have produced so violent an exertion; for the same operation had been frequently done without exciting very violent muscular convulsion, though never without producing some degree of struggle: but in these cases the division had been effected more leisurely, and experiments made on the bodies of horses immediately they were put to death at slaughter-houses, proved that where the great nerve of the thigh was cut across, *suddenly*, more violent convulsion ensued than where it was cut across slowly. These facts may be worthy attention, provided further trials bring the performance of the operation in question into greater use.

It has been stated that relapses of lameness subsequently to

this operation, had been imputed to re-union of the divided ends of the nerve, when it had been merely cut across; but one case had occurred in which certain appearances in a substance occupying the space between the cut ends of a nerve, from which a short portion of the body of the nerve itself had actually been cut away, excited a suspicion that this new growth conveyed nervous influence.

I shall not stop to examine how far this suspicion was in consonance with the results of former experiments instituted by physiologists to determine the question of the reproduction of nervous function in the line from which a portion of nerve had been extracted, but shall merely observe, that it induced me to attempt to bring the matter to issue by farther trials; for, as it appeared that lameness was generally diminished, and sometimes altogether removed, by lessening or destroying sensibility in the pained parts, through interrupting or cutting off their communication with the brain by dividing one nerve, it became desirable to ascertain in what manner the lameness and functions of the foot would be affected by diminishing sensibility still farther, through dividing both nerves. The cases of rupture of the flexor tendon, or of the navicular bone, are very frequent, in proportion to bruise and inflammation of the tendon, as has been before remarked. Seldom, indeed, are the component parts of the joint soldered together by inflammation so as not to admit of motion; and by process of time, as I have often seen in dissecting the feet of old post-horses with coffin-joint lameness, and compelled to work, an adaptation of the surfaces of the bone and tendon take place, which affords strong reason to believe there would seldom occur any insuperable mechanical hindrance to the free movements of the joints, or any lameness, could the pain be removed.

The two nerves, in going to the foot, appear to give off branches in an equal proportion during their whole course below the fetlock; but as these branches cannot be traced into the tendon, it is not possible to say whether its sensibility be supplied by one or by both trunks. Hence it is uncertain which trunk should be divided, generally; or whether, from limitation of injury to a part, or diffusion of inflammation to the whole of the joint, it be advisable sometimes to divide one nerve, and at others both nerves. But if it should happen that the division of both nerves should completely remove the pain, and exercise restore the original facility and latitude of motion to the joint, and that, by degrees, the sensibility should be reproduced, so far as might be necessary for the complete performance of all the functions of the foot and limb, a new and

rich field would be opened to physiological research. It was resolved, therefore, to divide both nerves, in case of relapse of great lameness in a mare. The animal on rising from the bed trotted boldly and without lameness, but now and then stumbled with the foot operated upon. The wounds healed in a few days, and the mare was put to grass.

Some weeks afterwards, a favourable account was received of her soundness from her owner; but she was soon brought to London on account of a large sore at the bottom of the foot operated on, and extending from the point of the frog to the middle and back part of the pastern. It appeared that the mare, in galloping over some broken glass bottles, had set her foot full upon a fragment of the bottom of one of them, which cut its way through the frog and tendon into the joint, and stuck fast in the part for some seconds, whilst the animal continued its course, apparently regardless of the injury. The wound bled most profusely, but the mare appeared not lame.

Many days elapsed before I saw her, and then large masses of loose flesh were cut from the edges of the wound, without the animal shewing the slightest sign of suffering pain: and the processes usually attending sores went on with the same appearances that take place in sores of parts not deprived of sensibility; but such extensive injury had been done to the joint as rendered the preservation of free motion in it very improbable, even were the opening to close, which was matter of doubt.

From the preceding experiment it has been shewn, that, by the diminution of the quantity of blood passing to the inflamed joint, the sensibility was not subdued, owing to adverse peculiarity of structure; that by the diminution of sensibility the repairing powers of the part were not injured, as far as they depended upon the action of the blood-vessels; that, by a very sudden division of one nerve a fatal accident was produced; and that, by the extinction of sensibility, the natural guard against external injury, through the division of both nerves, an accident was rendered destructive, which, in the usual condition of the foot, might have been less injurious. The unfortunate results of surgical practice candidly related, rank, in utility of record, next to those of an opposite termination—errors in practice guiding experience to sound conclusions.

I recollect not the number of horses operated upon by me successfully, though it was somewhat considerable: some of these were worked by myself, and the general impressions on my mind at this interval are, that horses so operated upon, when they did not again become lame, were more apt to stumble with the limb operated upon than with the other; and that this mode

of treatment was likely to be more usefully applicable to coach-horses than to horses intended for single harness or for the saddle.

I am, Sir, your's obediently,
W. MOORCROFT.

*** For the power of inserting the above most important observations on coffin or navicular joint lameness, and the principal remedy employed by Mr. Moorcroft, we are indebted to Mr. W. J. Goodwin, to whom the extract was sent by his brother from Calcutta.—EDITORS.

SUSPECTED CASES OF GLANDERS.

By Mr. CARTWRIGHT, *of Whitchurch.*

CASE I.

AN old cart-horse of Mr. John Roberts's died on Monday, May 17, 1830. About three weeks or a month before he died, a slight running commenced from his nostrils. He had no cough, and his coat appeared rather unthrifty. In a week afterwards he was turned out to grass. The weather was rather wet, and the running from his nostrils became much worse, and offensive; and the membrane was excessively ulcerated, and his respiration as bad as that of a broken-winded horse. The submaxillary glands were very little enlarged. Appetite pretty good. During the last week of his existence he was kept in the stable. The owner had bled him about three days before he died, and had given him several drinks made of ale and warm seeds.

Examination.—Every part of the nostrils was eroded with ulcerations, and smelled offensively. The *frontal sinuses* were filled with matter similar to very thick cream, but without smell. The *trachea* was sound. The *lungs*, on their surface, were very lumpy; and on cutting into them they were nearly filled with tubercles approaching to abscesses, being filled with a yellowish substance of a cheesy nature. Wherever the lungs were cut the surface was spotted over with them, and three or four were found in the space of an inch.

CASE II.

While I was examining the foregoing horse, an old horse, the property of Mr. Huxley, of Dearnford Hall, was brought to the tan yard to be killed, having every symptom similar to the other.

He lay down whilst in the yard, seemingly very ill and in much pain, and as if he was about to die: he was soon destroyed, and on

Examination, I found the nostrils as badly ulcerated as in the other, but not so offensive; and the frontal sinuses full of similar matter, but of a more mucous nature. The trachea was slightly ulcerated in several places. The lungs contained many abscesses of a ragged description, and seemed as if formed of many tubercles that had suppurated. The submaxillary glands were little larger than usual, and not attached to the jaws. There was great effusion of lymph about the base of the heart.

This horse had been unwell for nearly six months, and became much worse on being turned out to grass.

Observations.—From what I have read, the principal symptoms of glanders are said to be, an ulceration of the Schneiderian membrane, great discharge from the nostrils, and a peculiar hardness and enlargement of the submaxillary glands, which are attached to the jaws; and tubercles are found in the lungs. If such be the invariable symptoms of glanders, I must conclude that the foregoing cases were of that description; but I am inclined to think, that every case attended by these symptoms is not glanders; for I have frequently seen cases of catarrh terminating in a few days in the most malignant ulcerations, and followed by death.

Any one whose practice has enabled him satisfactorily to answer the following questions, would oblige the writer, and, no doubt, many of your readers: viz.

1st. Do severe cartarrhal affections produce glanders?

2d. Do not many horses with chronic inflammation of the lungs have the nostrils much ulcerated, and the glands enlarged?

3d. Can every case in which there is ulceration of the Schneiderian membrane, discharge from the nostrils, and enlarged submaxillary glands, be said to be one of glanders?

4th. If not, how are they to be distinguished? and is inoculation *always* to be depended on?

I am led to make these inquiries from there being many horses in this neighbourhood that have the symptoms of glanders, and their owners declare that they have not been exposed to infection; and because I find much difficulty in positively deciding on many cases, from being aware, *in my own mind,* that ulceration of the pituitary membrane, and the trivial enlargement, in numerous cases, of the submaxillary glands, are fallacious guides, and ought not to be depended upon.

There is a very interesting case of suspected glanders reported by Mr. Watt, of Edinburgh, in the second volume of THE VETE-

RINARIAN, page 106, where "about half a pint of thick purulent matter" escaped from the frontal sinuses, after a considerable discharge from the nostrils had been established for upwards of a year. It is also there said, there was no ulceration of the Schneiderian membrane; but I think it almost impossible to decide whether there was or not, from the inability fairly to examine far up the nostrils in this or any other case.

This solitary case shews that a horse may have excessive discharge from his nostrils, and matter in his frontal sinuses, together with enlarged glands, for upwards of a year, and yet not have the glanders. The writer of "*The Library of Useful Knowledge*," page 70, vol. i, says "if there is matter in the frontal sinuses, we may be sure the horse is glandered," which is quite contrary to Mr. Watts's case above.

MR. SPOONER TO MR. JAMES TURNER ON SHOEING.

Dear Sir,

In reply to your letter, which appeared in THE VETERINARIAN, vol. iii, No. 32, I beg to say, that I read, and duly appreciated your remarks on shoeing, in answer to Mr. C. Clark; and I purposely omitted to dwell on those points you there so clearly illustrate. The cause of truth is a sacred cause, and when I add my mite in its support (though it be but a drop in the ocean), I do not consider I am unworthily occupied. The root of prejudice is fixed and deep; and it requires both time and patience to subvert it, and establish new systems; but, though slow in its march, truth is sure in its advance, and in the end—*Vincit omnia veritas.* Believe me,

Dear Sir, truly your's,
W. C. SPOONER.

Blandford, Oct. 12th.

A CASE OF SANGUINEOUS APOPLEXY.

By the same.

October 11, 1830.

A BAY mare, seven years old and full of flesh, had been working at plough for several hours, when she began kicking violently (a practice to which she was before occasionally addicted). Two men were unable to hold her: she ran furiously about the field for several minutes; dropped down suddenly, and expired almost immediately.

Post-mortem Examination.—On opening the body the following day, the veins of the extremities, and superficial ones generally, were found full of blood in a fluid state, owing probably to the mare dying immediately after violent exertion, when the limbs were in a state of great excitement. The abdominal and thoracic viscera were free from disease; but on examining the brain about two drachms of coagulated blood were found on the *medulla oblongata,* immediately behind and beneath the cerebellum, and a smaller portion was also perceived on the tubercula quadrigemina. The prominent cause of death, I should imagine, was the rupture of the vertebral vein, and effusion of blood on the origin of the *nervus vagus.*

OBSERVATIONS ON THE PROXIMATE CAUSES OF RABIES IN THE DOG AND OTHER ANIMALS.

By H. W. Dewhurst, *Esq. Surgeon, Professor of Human and Comparative Anatomy, &c. &c.**

Mr. President and Gentlemen,

When I consider the interesting and scientific manner, and the industry our worthy secretary, Mr. Youatt, has exhibited for many years, in endeavouring to elucidate the pathology of *Rabies Canina*, and the vast experience he has enjoyed, I cannot but confess I feel some diffidence in approaching a subject which is of the utmost importance to mankind, inasmuch as from its tremendous and horrifying effects so many individuals have fallen victims to an aggravated species, which only exists in the human race, and from the unfortunate creature being liable to a great dread of water, nay, I may say of liquids generally, it has been justly denominated hydrophobia.

I am aware of being unable to say that I have had much experience in the disease in question; but from my having formed some novel views of the probable causes by which this disease may arise in the dog, or many of the lower animals, I must crave your kind indulgence to hear the few observations I deem it my duty to make, and trust they may be so fortunate as to be deemed worthy of your consideration; for it is our duty to promulgate any opinion we may form of the obscure causes of a disease for the discussion of our professional brethren, and thus promote the grand cause in which we are engaged, that is, the cultivation and diffusion of sound anatomical and pathological veterinary knowledge.

The symptoms, appearances after death, and methods of

* Read at the London Veterinary Society, Oct. 6, 1830.

treatment, have so fully been considered by Mr. Youatt, that I do not feel myself justified in occupying your attention with a description of them in detail, particularly for the two following reasons:—First, I conceive that they must be all known to you, from a perusal of this gentleman's pamphlet, and which is highly deserving of your attention. And, secondly, that I might perhaps be charged with plagiarism, a circumstance I would wish to avoid; but I shall cursorily allude to some of them as I proceed.

Unfortunately the cause of rabies is as yet too obscure for us to found any solid theory on which we can ground any perfect plan of treatment. We cannot, from all our past information, but acknowledge that its seat is in the respiratory system of nerves, and this is proved by the symptoms which take place; that the morbid state of the system is created by an inoculation of the virus upon an abraded or wounded surface; and that this has its residence in the saliva of the animal by whom the disease was communicated.

Now allowing all this, and which is fully borne by past observations, here let me ask, does this point out the original cause of the malady? I say, no; and with all due deference to Mr. Youatt, I have come to the following conclusions:—

First.—That sometimes it occurs spontaneously, without inoculation.

Secondly.—That it may be confounded with inflammatory diseases, particularly of the viscera.

Thirdly.—That it may arise from a non-gratification of the passions, particularly sexual intercourse.

Our worthy secretary inquires, in his *remarks*, whether it ever occurs spontaneously; and if I recollect aright, he does not believe it does ever take place. But in this I cannot coincide for several reasons, inasmuch as the relation of one or two cases may point out more information than bare suppositions. An old lady kept, for the preservation of her domicile, a small terrier dog, which was placed in a coal cellar at the bottom of the house in the area, where he was scarcely ever relieved from his imprisonment, for a period of near five years. In all probability, from some primary disorder of the digestive organs, severe symptoms arose, bearing every mark of pure rabies, and in this state he was destroyed. On my calling the next day, accidentally, to pay her a visit, having been in the habit of attending her, and being informed of what had occurred, I requested leave to examine the dog. It was sent to me, and was examined by myself and my friend Dr. Heydeloff of Edinburgh, who at that period was in

London, in the presence of several of my friends and pupils, and we found the intestinal, nay, the whole alimentary canal, bearing all the appearances which are exhibited in cases of rabies: the dura mater and its continuation enveloping the medulla spinalis were slightly vascular, and the whole substance of the brain was more loaded with blood than is usually perceived in a state of health. From the information I could gather respecting the previous symptoms, it confirms the view I have formed respecting its being a decided case of rabies; and this being the fact, I will ask, is not this an instance of spontaneous disease? and I am of opinion, that it not unfrequently occurs in those animals who have been confined under similar circumstances to the one I have mentioned.

I shall not waste your time with any further observations on this head, being assured that this is worthy of some consideration; but at once proceed to my second division, wherein I have stated that *rabies* has been confounded with numerous inflammatory diseases, particularly those of the abdominal viscera.

It is hardly necessary for me to remark, that, in this metropolis, but little attention is paid by the middling classes of society, who retain dogs in their service for divers purposes; but unfortunately these animals are too often afflicted with disease, under which they labour without the least attention being paid to them, or any remedies administered for their relief. This arises from one of two causes, viz. ignorance or total neglect.

From this circumstance, there is not the least doubt that numerous organic changes occur, with their corresponding train of symptoms, which in their aggravated form are too often mistaken by ignorant persons for the malady in question. I have frequently found, upon opening the bodies of dogs which have been brought to me by my friends or pupils for dissection, and which had been previously considered in perfect health, that the mucous membrane of the intestinal canal was more or less inflamed, the vessels of which were sometimes loaded with dark venous blood, looking as if painted, and occasionally large patches of ulceration. I now call your attention to the following case:

An eminent medical practitioner residing in the neighbourhood of Walworth, being what is termed a sporting character, kept a dog for the double purpose of guarding the house, and becoming the companion of his gun during the shooting season; and frequently the animal was allowed to roam about the fields in the neighbourhood. One day, on the return of my friend from his professional avocations, he was informed by his domestics that the dog was in a state of madness, having been hunted

home by numerous persons armed with pitchforks, &c. and was unapproachable, all being afraid to go near him on account of his fury. On going into the garden where the dog had retired to his kennel, my friend found his eyes extremely bright and sparkling, his mouth foaming with saliva; he was lying in the corner of his kennel, and extremely spiteful to all who came near him: these were the most prominent among other symptoms. My friend went to his surgery, and prepared a ball containing one drachm of calomel, and gave it to the animal: three hours afterwards, four ounces of sulphate of magnesia dissolved in some oatmeal gruel was given to the unfortunate creature, and, notwithstanding several copious stools had taken place, the saline dose was repeated in three hours after the first. By this time great weariness was produced, and doses of gruel were frequently administered: the next day similar food, together with small doses of sulphate of magnesia, of about one ounce twice a-day for two days, were given to him, when it was left off, and in a short time the dog was entirely well. Now in this case there was not the least doubt, that it was an aggravated state of intestinal inflammation, which had been mistaken both by the populace and a scientific medical practitioner for madness or rabies. There is also not the least doubt that numerous cases of inflammatory and neglected maladies may be confounded with this disease, or, what is not unlikely, it may degenerate into perfect rabies; and I am further of opinion, that it not unfrequently occurs from the circumstances I have already mentioned. Besides, there is not the least doubt that, if a case was carefully watched, the ultimate symptoms would occasionally be found to bear some analogy to those of rabies, prior to mortification commencing.

The last head to which I shall draw your attention on the present occasion, is one which I believe has not engaged the attention of human or veterinary pathologists, but which is one highly deserving of their attention.

We know that throughout all classes of animals, and of plants in fact, all animated bodies possess peculiar organs necessary for the procreation of their species, with their corresponding series of functions.

At a certain period peculiar to every animal*, certain desires occur at stated seasons, wherein their sexual propensities must be gratified, and in some this takes place with the most unbounded fury; and in those cases where it happens that there are more males than females, violent conflicts ensue, and there is not the least

* I mean, of course, the lower animals; for in the human female the process of impregnation is capable of being effected at all periods of the year.

doubt that, in such as cannot gratify the sexual passions, rabies, or a disease greatly approaching to it, actually takes place, and more or less becomes aggravated: this is stated to have occurred in the wolves and other animals on the continent, and in the menageries where animals are preserved and exhibited in a state contrary to the habits, climate, and freedom they enjoyed in their original states; where, from these circumstances, this passion is unable to be gratified as was intended by the great Author of nature, pure madness breaks out, and then is only to be restrained in its intensity by means of violent purgatives and similar plans of treatment. A well-known instance of this occurred in the Elephant some time ago at Cross's menagerie, Exeter Change, where, on account of the animal's unrestrained fury, he was compelled to be destroyed; and you must also recollect, that at certain periods, when the sexual appetite became excited, the vascular system was compelled to be lowered by means of strong doses of saline medicine: and thus I am borne out in the proposition I have advanced; and there is not the least doubt that, had the dissection been made with this idea, the whole vascular and nervous systems would have been found under great excitement, differing exceedingly from what would be perceived under other circumstances. As far as my own observations have gone, I have seen rabies rarely occurring in the bitch, but almost invariably in the dog. If the experience of others support this remark, I inquire, is it not highly probable that this may be one of the causes of rabies?

These are the three points to which I wish to direct your particular attention, inasmuch as I conceive a full and deliberate discussion on this important subject may tend, in the end, to afford some information as to the proximate cause of the pathology of rabies, and thus be the means of ultimately leading to some sound plan of treatment to be adopted with both man and animals. My object in this paper is not to communicate information (for that I confess I am unable to do, when compared to that which has been communicated by Mr. Youatt), but to elicit a discussion from men who have it more in their means than myself of instituting inquiries, whether or not the suppositions I have advanced in the course of these observations are correct or incorrect, and which can only be ascertained by the observations of a scientific practitioner devoted to his profession, and embracing every object that may occur in the practice of himself or his friends; and as numerous observations must occur in equine and canine pathology, I would take the liberty of suggesting that more attention should be paid to an examination of the brain, nervous and vascular systems, than is generally done by veterinarians. I

have, sir, to apologize for the hasty and crude manner in which these remarks have been put together; but not being aware I should so soon have the honour to address you, I considered it my duty to offer them in their present form, rather than create a diappointment.

A CASE OF STRICTURE OF THE ŒSOPHAGUS.

To the Editors of "The Veterinarian."

Gentlemen,

I HEREWITH transmit you an account of an operation, which, as it is rather of rare occurrence either in man or in the lower animals, may perhaps prove interesting to the readers of your valuable publication.

J. P. CHEETHAM, Veterinary Surgeon, E.S.

33, Union Place, Glasgow.

ON the 9th of August I was called to attend a bay mare, the property of an officer of the Fourth Dragoons. When I entered the loose box I found her discharging masticated food by the nose; and I observed on the nigh side of the neck, in the situation of the œsophagus, a swelling the size of my arm, commencing about six inches below the pharynx, and gradually increasing in size until it reached the sixth cervical vertebra, where it terminated abruptly. From the history of the case, it would appear that there had been a partial obstruction offered to the passage of the food ever since she had been purchased (a period of about nine months), which had been progressively increasing; and on several occasions, of late, the œsophagus had become so obstructed, that it was necessary, in order to remove the contents, to drench the animal with water to wash them down; in other instances a probang was used. Some time in the last spring a blister was applied over the diseased part, and she was afterwards turned out to grass.

While at grass, it was observed that the food, when it happened to lodge in the lower part of the dilatation, was frequently passed up again towards the mouth, and afterwards returned towards the stomach. She was taken from grass on the 6th of August, and on the following day was given a considerable allowance of corn, to ascertain if she had recovered from the disease. An accumulation of the food, as formerly, was the result. As the means formerly used had been tried without effect, I had her cast on her right side, and made an incision

opposite the sixth cervical vertebra into the œsophagus, about four inches in length. On opening the œsophagus, it seemingly was divested of its muscular fibres, the cuticular coat being the principal part that here composed the tube. Having exposed part of the masticated food which it contained, the contents, from their density, were removed with some difficulty, and she was afterwards drenched with warm water, to wash out the œsophagus.

The dimensions of the dilated portion I could not correctly ascertain; but its inferior part I imagined, when distended, to be three or four inches in diameter.

On examining the cyst, I found the tube so much contracted at the opening downwards, that it would only admit a probang half an inch in diameter to pass, and that not without a slight rotatory motion and some degree of force.

After withdrawing the probang she was allowed to get on her feet; she then drank freely of warm water, which by applying pressure on the wound, passed on to the stomach without interruption; but when the pressure was removed, the greater quantity passed out by the wound: her pulse, which before was 65, having risen to 75 after the operation, I abstracted from the jugular vein five quarts of blood, administered a laxative drench, and left her at five P.M.

At nine P.M. I again visited her, and found the pulse 90; the wound foul, with an ichorous discharge having an offensive smell. Fomentations of tepid water were then applied and continued all night, and a solution of the chlorate of lime injected into the wound every half hour. In the course of two hours she was much relieved, and, the pulse having fallen to 80, she took freely of gruel through the night, and by four next morning the wound had lost the offensive smell, the discharge was much less, and the pulse 75. I now left her, a poultice having been applied over the wound.

At eleven A.M. the symptoms being much the same, the wound was bathed with tepid water, and a fresh poultice applied. In the evening the pulse was 65, in which state it continued for two days. Similar treatment was pursued with the wound; her regimen was gruel, with mashes of bran and a decoction of linseed of a thin consistence.

On the 12th a sloughing in the wound commenced, extending to the œsophagus, part of which became detached, and in a week the wound assumed a healthy condition and the fetor abated. I now introduced a probang of a similar size as mentioned formerly through the stricture, and repeated it two or three times a-day for ten days, increasing its size gradually.

After its first introduction it passed every day more easily, until at length it could be introduced with the greatest facility. By these means, the stricture which appeared to have formed where the tube enters the chest was overcome, and since that time the probang has been occasionally introduced by the owner.

To assist the mare in swallowing, the dilated part is now aided in its action by pressure, which is accomplished by means of a collar similar to that of a martingal, which has a pad attached to it, and it is fixed to the roller by straps properly adjusted to keep up a regular degree of pressure.

26th Sept.—I now find the dilated portion greatly diminished in calibre; the wound nearly closed, and the mare is lively and in good spirits, taking daily exercise, and her regular allowance of corn and hay.

MINUTES OF EVIDENCE

BEFORE A COMMITTEE OF THE HOUSE OF COMMONS ON THE BILL TO PREVENT THE SPREADING OF

CANINE MADNESS.

As several medical gentlemen, both human and veterinary practitioners, were examined before this committee, and their evidence may be supposed to contain the substance of present medical knowledge and opinion on this very important subject, we shall, in the two or three succeeding numbers, insert the minutes of their evidence.

We begin with that of Messrs. Coleman, Brodie, and Morgan, because it bears on a point discussed in the present number, and includes all that was elicited in favour of the occasional spontaneous origin of rabies.—EDIT.

Edward Coleman, Esq. called in and examined.

The committee are informed you have had considerable experience on the subject of canine madness?—I have had many years' experience, and have seen a great deal of the disease.

Have the goodness to state what has occurred to you?—I have made up my mind on one point, in which many people, however, are of a different opinion; that the disease is often produced without contagion.

Spontaneously?—Yes; but when I say spontaneously, I believe that to arise in consequence of the fact of their being

exposed to their dung and urine, and to confinement, too much feed and too little exercise. I do not believe that carrion flesh is capable of producing it, but I think it arises more from being confined, tied up, and exposed to their own dung, and their own urine, and their own breath, and also from the want of proper exercise. I believe that with hounds in kennels that are properly attended to, it is rather an uncommon disease; but when the kennel has not been attended to, canine madness sometimes takes place, of which I know one instance in particular: the subscription pack of fox-hounds in Surrey had the disease to a considerable extent, and there was one remarkable fact, that the dogs did not bite the bitches, nor the bitches bite the dogs. The kennel had been very much neglected; there was no water flowing through the kennel: I suggested improvements in that respect, and the disease for a length of time disappeared.

In the cases you are now speaking to, have you examined the dog after its death in any case where the dog has not been bitten?—It is impossible to prove the negative: we cannot say the dog has not been bitten; but if it did always arise from the dog being bitten, how came the first dog to be mad? But, independently of that fact it will be found, that in different parts of the country you hear nothing of hydrophobia, and then you hear of it in different parts of the country pretty nearly at the same time. Now there are many diseases highly contagious in themselves, but which are capable of being produced without contagion. The glanders can be thus produced—It is a contagious disease; and so is farcy; and yet it is a fact that these diseases are more frequently generated than propagated by contagion. The itch also is notoriously produced by filth, and when produced, becomes contagious; so with ship fever and gaol fever, which, when they break out, become contagious; but they can be generated.

Would the glanders be produced by inoculation in the case you refer to?—I can mention one extraordinary instance, which was in the Quiberon expedition: there were a great many horses examined prior to their going out, and not one of them had any apparent disease; they were put on board different transports; they encountered a hurricane; they were obliged to put down the hatches; several horses were suffocated, and great numbers of them became glandered in consequence. At Dover, in the year 1796, where there was a great encampment, the government could not get stables to receive them late in the autumn: they built close and confined stables; and the most healthy horses went into those new stables, and a great number became glandered, affected with farcy or diseases: a great many of them

died. Many of the horses were sent to Hythe and placed in an open shed; not one of these horses became affected. It was certainly intended that animals with lungs should have an element to breathe once, and but once, and that the air should receive something from the blood, and impart something to the blood; but that, when made to go several times into the lungs, it produces a disease which becomes infectious. In the human subject it produces fevers and the plague, and farcy and glanders in horses, the pip in fowls, and the husk in pigs.

Have you seen, in the course of your practice, a horse affected, and which died of hydrophobia?—Yes, several.

In those cases, were any of them without being bitten by rabid dogs?—None.

Was there any disposition to bite in the case of horses?—The disease styled hydrophobia is a very improper term, for it applies only to men: there is no dread of water in dogs, and there is one symptom which is characteristic of the seat of disease in the incipient state, that is, when the disease takes place in hounds, it is very common for the huntsmen to hear a dog challenge, and not to know what dog it is, though he is as well acquainted with the voices of his dogs as we are with our own voice; and on going up to the dog he finds that it was one whose voice he was well acquainted with, but totally different: this will continue for several days without any other symptom but an alteration of voice, a demonstration that the seat of disease in the early period is in the larynx, and which becomes manifest particularly in hounds. The disease in horses does not put on the same appearance as in dogs: in the dog, one of the most characteristic symptoms of the disease is that he retains a perfect knowledge of his master, and answers to his name, and will fondle his master, but bite his hand or a stick, or any thing within his reach: the dog laps his own urine, eats his own fæces, and eats brick and mortar, and these are characteristic symptoms of the disease. In horses the symptoms are quite distinct from those of the dog; it produces a degree of irritability very similar to that which might be expected from a pistol being fired off close to the head of a young horse: he continues in that agitated state of fear from all surrounding objects, pawing with his feet, anxious, and in some cases disposed to bite, and to kick, and to be violent, but not always bite or kick.

In the case of a bite from a horse labouring under hydrophobia, do you suppose that that would be contagious?—I doubt whether it would; I have never known a case of it, and I believe there is no case of canine madness propagated by the bite of an animal, unless the teeth of that animal were intended as organs

of offence and defence. There have been instances in the wolf and in the cat, and in the fox; those are all carnivorous animals, and defend themselves by their teeth.

Have you known of late of an increased number of dogs being bitten and brought to you?—I have heard of an increase of cases, but I have not seen one: my opinion is, that the public report is greatly exaggerated as to the number of dogs and as to the number of persons affected: I refer to the human subject.

You have no doubt that a great number of persons have been bitten by dogs?—A great number of persons have been bitten by dogs, and again a great many persons have, in consequence of having been bitten, become mad, but a great number of them have escaped: it is by no means a highly contagious poison, which will produce its effect in every case: many escape the disease.

Can you account for that?—Yes; the fact is, there are two circumstances always necessary for the propagation of every contagious disease,—the susceptibility to be affected as well as the application of the poison. If twenty persons were inoculated for small-pox, some might take it and some not: I believe with regard to inoculation with small-pox poison, that new matter must be formed in the part, or no effect will take place. The poison of the viper becomes absorbed and produces its effect immediately; if it does not produce its effect in five minutes, it will not produce it at all. As to small-pox, the parts are not susceptible of inflammation for many days, and you do not impregnate the system with the poison introduced, but with the poison afterwards formed. The poison being introduced into the part will not of itself alone produce the disease, so that it is necessary to have fresh small-pox absorbed before you can produce it.

Have you ever used the knife on a dog which has been bitten so as to cut out the part?—Yes; there have been many instances of their being excised and cauterized.

Have they escaped?—I have never known an instance of the part being taken out immediately after the animal has been bitten and the disease appearing, but I have known very few instances in dogs of that being done. It is a fact, with regard to this poison, that the parts in some cases are not locally irritated. We cannot explain why the poison of the viper should produce an immediate effect, and in the case of small-pox not produce the effect for many days, any more than we can say why ipecacuanha should produce vomiting and rhubarb purging, though we know the facts.

Have you any cases shewing for what length of time a horse may be bitten before he shews the disease?—In all instances of hydrophobia I have seen in horses, it has been within a month,

in every instance I think; but there are many cases of very long standing in the human subject.

Would you recommend any thing by way of police or otherwise, to prevent the effect of bites from dogs?—I have nothing to suggest upon that point, except a tax on people who keep dogs; that, I think, is the best remedy.

The number to your knowledge is very great in the streets of London and its suburbs?—Yes, it is.

Are dogs most numerous in the parts inhabited by the rich or the poor?—I have a great number about me at Camden Town and Somers Town: there are a great many more in the environs of London than in the centre of London.

Do you think they are kept more by the common people and in the back lanes, than in the more respectable situations?—Yes; I am of that opinion.

Royal Veterinary College, 12th July, 1830.

Gentlemen,

As I had the honour to state to the Honourable Committee of the House of Commons, on Canine Madness, that in my opinion hydrophobia in dogs is often *generated* from breathing a confined atmosphere, impregnated with an animal poison from the lungs, fæces, urine, and skin, I beg to add that hydrophobia will be generally found more or less prevalent as dogs are more or less exposed to these causes; and therefore, whenever the public mind is much excited on this subject, and dogs in consequence are *more confined*, and have not only less exercise but inhale less of the natural atmosphere, hydrophobia is more frequent. Under this impression, I feel it my duty to suggest to the consideration of the Committee, the propriety of every dog wearing a collar, with the name and residence of the owner, (and in the streets a muzzle) and which would not only give a great security to the public, but, when dogs become affected with hydrophobia, it would probably lead to a discovery of the history of disease in each particular case.

The expence of collars and muzzles would also diminish the number of dogs, and prevent the necessity of confinement, so prejudicial to the health of dogs, and so likely to produce and propagate the disease. Moreover, these precautions would prevent, in a great degree, the facility of selling stolen dogs, and, in consequence, diminish the crime of dog-stealing.

I have the honour to be, Gentlemen,

Most respectfully, your most humble and obedient servant,

EDWARD COLEMAN,
Professor.

To the Hon. Committee on
Canine Madness, &c.

Benjamin Collins Brodie, Esq. called in and examined.

In your judgment, has there been an increase, within the last few years, in the disease of canine madness? and in what proportion, if so, has that increase taken place?—I began to study my profession in 1801, and from that time to the year 1816, I never saw a case of canine madness, nor was there any one admitted into St. George's Hospital. Since that period we have had several; I do not recollect how many: I have also seen some cases out of the hospital.

In the first fifteen years you neither saw in the hospital, or knew in private practice, one case?—There were cases out of the hospital of which I heard, but which I did not see. I was not so much in the way of seeing them in private practice at that time as I have been since.

The fact that there were none brought into St. George's Hospital is clearly within your recollection?—It is.

In the last fifteen years there have been several?—Yes.

To what cause do you attribute this increase?—I do not know to what cause it is to be attributed, but it corresponds with that which we know to occur in other diseases, that they prevail more at certain periods than at others. I do not apprehend that there are more cases now than there may have been at some former period.

Do you conceive that the temperature has any effect in predisposing either the animal to become rabid, or the human subject to receive the disease?—I believe the general opinion is, that very hot weather makes the disease more likely to be produced, but I cannot say so from my own experience; for I have known it occur at all seasons.

Have you reason to believe that there are countries in the world in which the average temperature is considerably greater than that in England, in which the increase of dogs is considerably greater, and yet in which the disease is almost unknown, the question referring to Antigua, Constantinople, Alexandria, and other countries?—I do not know any thing as to those particular countries; but it stands on record that in the island of Jamaica the disease at one time had not been known for forty years. This was published by Dr. John Hunter, who had been a considerable part of his life in the West Indies; and nearly the same thing was communicated to me by a Jamaica gentleman, a patient of mine some years ago.

Did it after that period re-appear?—Yes; they attributed the re-appearance of it to its having been imported by some dog from the continent of America, or some other quarter.

In your judgment, does the disease ever arise spontaneously? or does it in every instance arise from the bite of an animal previously rabid?—I have not arrived at any certain opinion upon that point.

Do you conceive that in any instance the disease arises spontaneously? and if so, are the predisposing causes to be sought in heat, in food, in irritation, in the nonuse of water, or in any and what other causes?—I have not been able to make up my mind whether the disease does or does not ever arise spontaneously. There is a good deal to be said on one side, and a good deal on the other: first, they say that in Jamaica it has not appeared sometimes for forty years; then, when it has appeared, that they have been able to trace it to some dog which has been brought from the continent of America, or one of the other West India islands: again, it is stated that Mr. Meynell used to be very much annoyed by the disease appearing in his pack of hounds, and that for some time he took a good deal of pains to prevent it without success; at last, however, he did prevent it, by making every dog perform quarantine before he was admitted into the pack. On the other hand, it seems difficult to account for the disease in a populous country like this being so rare at one time and so prevalent at another, unless it does arise spontaneously. It has been stated that the disease, or something like it, has been given by animals that were not diseased themselves, that were merely enraged, and not actually rabid. I have been informed that a case of this kind occurred some years ago in Dublin; if the Committee wish it, it will be easy to obtain the particulars. I had a patient under my own care in the hospital, who had been hunting rats, and he had been poking at a rat in a corner with a pole: the rat and he maintained a battle for some time; at last the rat jumped out of the corner, and bit him in the thumb. The man was admitted into the hospital with some symptoms which were very like those of hydrophobia; it was a question whether it was hydrophobia or not. The man was in great danger, but he ultimately recovered. The rat ran away, so that nothing was known as to what became of him. There was a case published in the Philosophical Transactions, well authenticated, more than a century ago: the man died of hydrophobia a month after he was bitten, and a fortnight before the man died the dog was seen alive and well. I only mention these things to shew that we have not sufficient data for coming to any positive conclusion as to the disease being communicated solely by inoculation from an animal already rabid or not.

What proportion of the cases brought into St. George's hospital, or brought under notice of any medical man, as cases arising from

the bite of a dog supposed to be mad, do you believe to have arisen from the bite of a dog really rabid? and of the cases really produced by the bite of a dog rabid, what proportion do you believe to have actually taken the hydrophobia?—Ever since I have been about the hospital, either as a pupil or a surgeon, we have had a great number of persons come who have been bitten by dogs supposed to be rabid: I conclude that many of those dogs were not rabid, but that a considerable number must have been so. We have always excised the parts, or we have applied caustic when we could not excise, and I have never heard of any one of those patients having had the disease afterwards. If any of them had had it, we should have been sure to have heard of them.

You attribute great virtue to such means?—Yes, if the operation be properly performed: a great deal depends upon how it is done; it may be done very carelessly. The caustic may be applied by those who are not in the habit of applying it, and who do not use it sufficiently freely. I have seen two persons have the disease who had had the caustic applied, but then I suspect it was not applied in a proper manner. Among those admitted into our hospital, where it is almost always done by the house-surgeon, and generally done at the moment, as I said before, no single individual has ever had the disease. I may add, that I have talked with other surgeons of hospitals both in this country and abroad, and had the same account from them all.

Have you had any reason to believe that any one of the dogs by which the bites were inflicted had been otherwise than mad?—I dare say the greater number of the dogs that had bitten persons brought to our hospital were not mad.

Have you known that in the cases of some of those patients who were so bitten, the dogs have afterwards died rabid?—Yes, I cannot doubt it. They very frequently have sent the dogs to us to dissect, and we have found such appearances as proved them to have been rabid.

Would it be safe almost at any time before the disease had appeared to apply the knife or the caustic?—There can be no harm from it. It must be safe at any rate: and I should apply it certainly at any time before the symptoms had shewn themselves, because I do not know when the operation ceases to be useful.

Can you suggest to the Committee any measure of precaution, as a measure of police, which it might be desirable to adopt either for the prevention of the disease, or as the means of assisting in its cure, by directing the public attention to the disease and to the remedies?—I suppose, with respect to the prevention

of the disease, nothing can be done better than giving the proper authorities a power of ordering the dogs to be chained up or muzzled. I have been told this morning, that in Italy, where the disease prevails, there is an order of the police that all dogs should be muzzled, and that dogs-meat is put about the streets with poison upon it; that the dogs not muzzled eat the meat, and are poisoned.

Do you think, from your own knowledge, that as the disease generally arises from the bite of rabid dogs, the number of dogs has become greater since 1816?—The probability is, I conclude, that dogs are not so common as they were before the tax was imposed on them: the tax was, if I recollect right, put on at a period when the disease was supposed to prevail, and with a view to lessen the number of dogs.

You are not aware, perhaps, that persons not taxed for windows are not taxed for dogs?—I was not aware of that.

You are aware, probably, of a proposal to form a society to consist of medical men, with the offer of rewards for the means of prevention or cure of the disease; what is your opinion?—I cannot see that any good is likely to come from it. You can offer no greater reward than is offered already; for whoever discovered a cure for hydrophobia, would obtain fame and fortune by his discovery. The absolute number of persons who die of hydrophobia, as compared with the mass of society, is small; but the chief thing from which society requires to be delivered is the alarm which they are under on the subject. I recollect looking over all the cases I could meet with published in our language, and I found some where I was satisfied that the patients had died of the mere terror. The state of anxiety in which I have seen people over and over again, after having been bitten by strange dogs, is a very serious evil indeed. I have known such persons completely miserable for months together.

John Morgan, Esq. called in, and examined.

The Committee understand that you have paid considerable attention to the subject of canine madness?—I have paid particular attention to the subject of poisons generally, but not to the subject of canine madness.

Is it within your knowledge that there has been an increase of the disease of hydrophobia within a recent period?—In dogs, certainly; but not that I am aware of in the human subject.

To what cause do you attribute that increase of the disease in dogs?—That is a question that I have some difficulty in answering, because I am not quite certain whether the disease is produced by inoculation, or arises spontaneously: it is a dis-

puted point. I am not in possession of a sufficient number of facts to determine that point.

You are aware that in some climates dogs in much greater numbers than abound in London are constantly at liberty; that in those climates (the Committee refer to Lisbon, to Constantinople, and to Alexandria) the dogs roam, finding their own food, and without any disease arising amongst them, produce in themselves or in others any thing like hydrophobia?—I am aware of those facts.

Do you conceive that any degree of temperature is connected with the existence of this disease? and if so, within what range of temperature do you suppose the disease to be possible?—I am not aware of the extent of the country over which hydrophobia is at present known; but from the facts which have been stated by others, and from the circumstance of my never having met with a single case of spontaneous hydrophobia, I am induced to believe that it arises from inoculation, but I should not wish to speak positively upon that point.

In that case, you would suppose that the non-existence of the disease, supposing the fact to be so at Lisbon, at Constantinople, and at Alexandria, arises merely from the fact that no such morbid poisons have been introduced by other persons?—Yes, exactly so.

You mean by spontaneous disease, that in no case you have known a dog to exhibit it whom you could not prove to have been bitten?—Or to have been exposed to the liability of being bitten by being left at large; and that I had never known a dog completely excluded from other dogs, which had become subject to hydrophobia.

The Committee are to understand that the preponderance of your own opinion is, that it is a disease to be communicated solely by the bite of another animal previously rabid?—I am disposed to believe so.

Has any remedy been suggested, within your knowledge, for the disease, or any prevention of its worst consequences when the disease has been communicated?—Many unsuccessful attempts to find a remedy have been made after the disease has appeared, but I should consider that the only perfect prevention would be a quick excision of the part and its cauterization.

What proportion of cases have been brought to Guy's hospital within the last few years in which you conceive the disease of hydrophobia to have taken place distinctly? and of those cases, what has been the proportion of fatal termination as compared with the cases in which the bite was inflicted by the same dog, and no fatal termination ensued?—I have met with, I

think, but I will not speak positively upon that point, six cases of hydrophobia since I have been surgeon to Guy's hospital; and I think, when I say I have excised wounds inflicted by dogs upon the human subject in forty cases, I speak within compass.

What proportion of the dogs do you suppose to have been mad?—I suppose that all were mad who communicated the disease to others; that a dog not rabid is incapable of communicating hydrophobia to the human subject.

Do you believe, that of twenty patients brought to the hospital under the idea of the dog being mad, the greater proportion had been bitten by dogs which were not mad?—I have no doubt that two-thirds were bitten by dogs which were not mad.

Then the number of persons whose wounds have been excised would not give a correct idea of the number of persons who have been bitten by mad dogs?—Certainly not.

Can you suggest to the Committee any measure of police as a prevention of the extension of the disease?—I have reason to believe, though I am not perfectly certain, that the disease is communicated only by inoculation; I should think that, if that were proved to be the case, it would not be very difficult to put a stop to the disease, or at least to prevent its frequency. I should say, that, if all dogs found at large without collars were ordered to be destroyed indiscriminately; that if there was a fine imposed on the owner of every dog found astray; if all such stray dogs with collars were taken to some depôt in the parish as soon as they were secured; I think that such precautions would prevent any rabid dog which might be ranging about the streets from communicating the disease to others of its species without the knowledge of their owners.

You conceive that would lessen the disease very materially?—Yes, if it could be proved that it owes its origin entirely to inoculation.

That is the almost unanimous opinion of the faculty of the present day, is it not?—I should think so, and particularly of a gentleman who has had more opportunity of determining that point than myself or any other person living; I mean Mr. Youatt.

ON THE ROT IN SHEEP.

By Mr. DICKINS, *Kimbolton.*

To the Editors of "The Veterinarian."

Gentlemen,

SOON will the readers of your valuable journal have to congratulate you on the close of another year, and I am sure there is not one among them but must agree with myself, when I state

it to have been the medium of much valuable information, as far as regards that most noble animal the horse, unto whom, and very properly so, its youthful pages have been principally applied: but, gentlemen, would you allow so humble an individual as myself to suggest, that a few of its valuable pages would not be wasted in the investigation of that terrific (if I may be allowed so to express it) disease termed the rot in that valued animal the sheep, which has made such rapid strides within the last few years, that we may truly designate it a national calamity; but, at the same time, I think, I may add, there are not two agriculturists, nay, I may say, professional men, with whom you will converse, but vary in their opinion on this important subject, most of them, at the same time, looking to cure instead of cause. In fact, there are few days pass but I am asked (and I dare say other country practitioners the same), can you cure the rot in sheep? What is the practitioner to say? If he answers in the negative, he is supposed to know nothing of his profession; if, in the affirmative, he says more than his conscience dictates to him: but here I would not wish to be misunderstood, as I am well aware that salt, tonics, such as preparations of iron and copper, will sometimes prove of service at the onset of the disease. Probably I may be thought by some beginning at the wrong end when I suggest, that we first direct our attention to the organs found principally affected on post-mortem examination. What are they?—the liver and lungs. Our worthy professor, Coleman, in his lectures, says that rot is an indefinite term, and that we have many sheep with sound livers, although the lungs are highly diseased, arising from being too many together in a fold, and breathing the same atmosphere over several times, highly impregnated with excrementitious matter. I must say, that my humble investigations go completely to confirm those of this accurate observer. Now, might we not term this pthisis pulmonalis of the sheep? But we may have the lungs much diseased secondarily, or as a consequence of the disease of liver; and, I think, when such is the case, they put on a different appearance to what they do in what I have termed pthisis pulmonalis. We find the tubercles of a much larger size than when the liver is not affected. With regard to the causes of the disease much has been said, and many theoretical opinions offered: I mean the disease of the liver (considering that the disease of the lungs is accounted for in both instances). If I may be allowed an opinion, I would say the most plausible yet offered is that of my old preceptor Mr. Youatt, when I had the honour of attending his valuable lectures, viz., that some poisonous gas is exhaled from the influence of the sun on stagnant waters, causing a che-

mical decomposition of vegetable matter. Here I would beg leave to offer another query: it probably never was so much the fashion as of late years with farmers, to give their sheep what they term a good dressing with mercurial ointment at Michaelmas, as a preventive of the scab. Now, may not this, by absorption, particularly if the animal is hard fed and exposed to the inclemency of the weather, leave the several organs, but more particularly the liver, on which its action is more direct, in a weak state and more susceptible of the disease? I certainly think, if traced, we should so find it.

Flattering myself your valued pages will soon contain much good matter on the subject, and knowing, at the same time, it will not be passed over by that indefatigable labourer in our vineyard, Mr. Youatt, I am

Your's, &c.

CHARLES DICKINS.

ON HEPATIRRHŒA, HÆMORRHAGE FROM THE LIVER.

(Rupture du Foie, *Hurtrel d'Arboval.*)

By Mr. JOHN FIELD, *Jun.*

[Read at the Veterinary Medical Society, April 22, 1830.]

FEW diseases affecting the horse are more interesting, either in a practical or pathological point of view, than this. It is of primary importance to the practitioner to become acquainted with the diagnostic symptoms, in order that he may be able to discriminate it from other more commonly occurring disorders, of which it exhibits some of the characters. To the pathologist, a most ample field of inquiry and research is presented; for notwithstanding the similarity of structure of the chylopoietic viscera in the ass and mule, and the absence of the gall-bladder in some other animals, as the stag, &c., in England the horse alone is obnoxious to this particular malady.

The previous history of each case teaches us that horses most subject to this hæmorrhage are always good feeders, remarkably healthful, and capable of constant work: they are also in most instances fat.

The hæmorrhage, which rarely occurs under ten years of age, is the consequence of an alteration in the structure of the liver, the cellular connecting tissue of which is so softened or destroyed,

that its peritoneal investment separates, or is so loosely adherent that it can be separated with the slightest force; and the cohesiveness of the organ is so much impaired, that portions of the liver will rupture on handling, and the ramifications of the vessels may be traced by merely washing the substance*.

During this structural disorganization, there are no monitory symptoms; the secretion of bile continues as usual, the excretions are natural and in proper quantity; and it is only after "passive hæmorrhage," the effect of the destruction of the parenchyma and the rupture or relaxation of the vessels, that its existence is detected; but at this period the diagnostic symptoms are so conspicuous in most cases, that the practitioner cannot fail to distinguish it from other diseases, as colic and staggers, for which it has been mistaken, provided he has in any former case carefully watched the symptoms, and witnessed the post-mortem examination.

The symptoms vary in degree according to the profuseness or rapidity of the hæmorrhage: if the peritoneal investment remain entire, the effusion of blood is more gradual and in less quantity; but should this coat be ruptured by its great distention, or by the collision of the body against the ground, from fainting or other causes, the bleeding being unrestrained, continues into the cavity of the belly: the most urgent symptoms present themselves, and the horse dies in some cases, within an hour after the first manifestation of illness, previously exhibiting the whole or the major part of the following:—pawing; shifting of the posture; frequent feeble pulse, sometimes distinct, at others scarcely distinguishable; fulness of the belly; (pouting of the nose; curling of the upper lip; sighing, sometimes very frequent and deep; partial or general sweating, or in circumscribed spots on different parts of the body; conjunctive and buccal membranes palid or quite blanched; amaurosis; fainting; all which may be regarded as special characteristics of the complaint:) succeeding to these are great anxiety; accelerated respiration; restlessness; tossing up the head; tottering gait; extreme debility; fainting; death.

* This condition of the liver bears no analogy to that of the stuffed goose recorded by Pliny, and alluded to by Horace, Juvenal, Martial, &c. which gratified the palates of the gourmands during the prosperity of the Roman empire, and is still prepared for our modern epicures, and sold as "*Foie Gras*," or entering into the composition of the celebrated Strasburg pie, as "*Paté du Foie Gras*." By confinement, warmth, and the excessive nutrition of a goose, as I am informed, the liver acquires an immense volume, sometimes exceeding three pounds in weight, but becomes fatty, or, as it were, larded throughout. England is principally supplied with this article of diet from Strasburg and Rouen.

On opening the abdomen we observe the intestines deluged with dark venous blood, in a fluid state, the quantity sometimes exceeding ten gallons; the peritoneum and intestines of a faint yellow colour, or quite blanched. The liver presents a tumid appearance; its concavities are filled up or rendered convex; some portions of the peritoneal coat appear opaque, and four or five times the natural thickness; elsewhere one or more rents in the part of the peritoneal coat, which is of the usual tenuity, are observed, through which the extravasated blood has escaped from the ramifications of the vena portarum*; beneath the peritoneal membrane on each side of the fissures there is generally some dark coagulated blood. The colour of the liver is various, being either fawn, light yellow, or brown; its substance is exceedingly brittle, can easily be torn by the finger, and is in some places so broken down, that small portions of solid float in the semifluid or grumous mass into which other parts are converted: circumscribed coagula of blood are also frequently found by cutting into parts of the liver which are not so much disorganized, and occasionally extravasations of blood are formed beneath the peritoneum over and around the kidneys, extending even to the pelvis: the weight of the liver and extravasated coagula, in some cases, exceeds sixty pounds. The hepatic duct always contains bile.

This increased size of the liver is occasioned by the extravasation of blood into the substance, and under the peritoneal coat, not by an increase of the natural substance of the organ. If the hæmorrhage be not very profuse, the symptoms are less marked, and occasionally doubtful; but, in most instances, one or more of the characteristics of the complaint are present, or the obscurity that first existed is gradually dissipated by the aggravation of the symptoms, which generally assume the severe form in a few days.

Diminished appetite, swelling of the hind legs, faintness in work, apparent fulness of abdomen, slight uneasiness, sometimes looking back or lying down but without rolling, have been the deviations from health first noticed. At this period the pulse may be scarcely altered, but soon becomes frequent and feeble; the buccal and schneiderian membranes appear at first of their natural colour, afterwards paler or pale yellow, lastly blanched. There is occasional sighing; the size of the abdomen increases; the tongue becomes furred and disagreeable; the ears are clammy; the bulk of the body reduces, owing to the absorp-

* If warm water be injected into the vena portarum after having tied the vena cava posterior in the thorax, the water will escape from innumerable orifices on the abraded parts of the liver.

tion of the fatty parts; the horse gets weaker; the pupil of one or both eyes gradually dilates, from the diminished sensibility of the retina to light, until the eyes become completely amaurotic. It is a remarkable fact, that, notwithstanding the patient may rally for a time from the disease, regain his strength and condition, and return to work, I have neither seen nor heard of a single instance of the recovery of sight, although in one case the horse worked for twelve months afterwards. Amaurosis more commonly occurs after the second or third attack. The permanency of amaurosis in these cases would seem to be an effect of the morbid alteration of structure in the liver, rather than the simple consequence of hæmorrhage; for, on inquiry, I cannot learn of such an effect having resulted from uterine or other hæmorrhage, however profuse, in the human subject, unless the statement of Voltaire, which seems somewhat in point, can be relied upon*.

If the hæmorrhage be beneath the peritoneal investment, or in the substance of the liver, or under the peritoneum, and cease, the symptoms consequent upon the loss of blood diminish, and about the third day of such improvement the previously blanched conjunctive and buccal membranes are tinged with a yellow colour, which gradually deepens, and after a few days red vessels are seen ramifying on the bile-coloured membranes, and the natural hue is soon restored. At the same time, corresponding improvement takes place in the other symptoms; the pulse becomes fuller and less frequent, the sighing ceases, the size of the belly diminishes, the horse begins to feed, and lies down; he has, however, undergone a most extraordinary reduction in the size of his body, if fat prior to the attack: the reduction is more sudden, and manifestly greater in this than in any other disease with which the horse is affected.

The urine and fæces during the attack remain unaltered; but in the animal's approach to convalescence the urine has been observed, in some cases, of a deep brown or nearly black colour.

No animal, destitute of a gall-bladder, is compelled to perform so great a quantity of labour, nor, with one exception, in any degree so rapidly, as the horse; for the ass and mule work slowly, and the stag is only occasionally hunted severely, and therefore cannot be considered as equally subjected to the predisposing circumstances of this disease.

Is the disorganization of the liver in the horse to be considered as depending upon a peculiar idiosyncrasy, aided by exces-

* "Le saint sacrement, porté dans le Faubourg St. Antoine à Paris, guerit en vain la femme La Fosse d'une perte de sang au bout de trois mois en la rendant aveugle."—VOLTAIRE *Louis XIV*, vol. ii, p. 221.

sive long-continued functional action? and does the retention of bile in the pori biliarii tend in any degree to the destruction of the parenchymatous substance? for the bile must accumulate in the hepatic duct and its branches during the fasts which horses necessarily experience, in consequence of their work being continued long at a time, although it may be secreted in less quantity whilst in work, than when, from sympathy with the other organs of digestion, the liver is called upon to perform its function to the full.

From what has been premised, it is evident that the existence of this disease is only known when the whole or a part of the liver is irreparably destroyed; and, therefore, but little can be expected from the aid of the veterinary art, save the preventing the abuse of those depletive measures, particularly venesection, to which non-veterinary persons are so apt to have recourse in all kinds of ailments, and by which patients of this class have been a little sooner hurried off. Still, however, those styptic and astringent medicaments may be employed which are regarded as in some degree remedial in less severe forms of hæmorrhage; such are the preparations of turpentine, the balsams, alum, sulphuric acid, &c.; but if the practitioners of human medicine entertain doubts of the styptic and constringent effect of these and other therapeutic agents in internal arterial hæmorrhage, how much more sceptical must veterinarians be of the possibility of such effects resulting from their use in cases of internal venous hæmorrhage?

I have subjoined the cases of two horses which had been several years in the possession of their respective owners at the time of their death, had worked regularly, and had always been in good health.

An old bay gelding, after a severe day's work, was observed to be unwell.

Oct. 9, 1828.—Pulse 60, feeble; respiration 11 per minute; conjunctive and buccal membranes palid; much sighing. The horse was placed in a box, and one ounce of balsam of copaiva in mucilage was given as a drink.

10*th.*—Symptoms as yesterday; repeat the balsam of copaiva three times a-day.

12*th.*—Pulse 48; appearance livelier; less fulness of abdomen; conjunctive and buccal membranes of a deep yellow colour; is disposed to feed. Repeat the copaiva twice a-day.

13*th.*—Pulse regular, and moderately full; red vessels are seen ramifying on the conjunctive membranes; the legs swell; the horse lies down, and feeds tolerably well. Repeat the copaiva once a-day.

15*th*.—Is much reduced in size, stales abundantly. Discontinue the medicine.

In a few days after, the owner, contrary to advice, put this horse to work, at which he continued till the evening of the 30th of December following, when I again saw him under the following circumstances:—Pulse indistinct; action of heart tumultuous; profuse sweating; pawing; crouching; lifting the hind legs occasionally to the belly; respiration much accelerated; deep and frequent sighing; distended abdomen; blanched conjunctive and buccal membranes; complete amaurosis: died that night.

Examination.—Belly full of dark venous blood which had escaped from a rupture of the liver: the liver greatly disorganized; all the other viscera healthy.

An old break-horse, after having been driven against fourteen young horses which were shewn to a foreigner, was observed to be unwell; and the owner, considering from his symptoms that he laboured under colic, gave him a drink, and bled him: although but a small quantity of blood could be detracted, the symptoms were much aggravated. I was called in, and found the horse down. The following symptoms were presented:—much distention of the abdomen; accelerated respiration; partial sweats; buccal and conjunctive membranes blanched; pulse feeble, thready, but distinct and exceedingly frequent. After some minutes the horse rose on to his belly, looked round to the flank, got up, curled his lip, raised his head, sighed, staggered about the box, and fell. After falling, the pupils, which were previously dilated, became more contracted: he ceased to sigh, and would lie tolerably tranquil for a few minutes, then, with much difficulty, rise again, on which the sighing and fainting, &c. returned. The animal became gradually weaker, the pulse indistinct, and, the pupils dilating, amaurosis supervened: he was now unable to rise, struggled occasionally and violently, making forced expiratory efforts, succeeded by gaping and oscillation of the eyes; threw back his head, and died.

Examination.—The abdomen full of dark fluid venous blood; much dark coagulum about the ruptured part of the liver and beneath the peritoneal coat: the cohesiveness of the texture of the liver quite destroyed.

THE VETERINARIAN, NOVEMBER 1, 1830.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

WE congratulate the Veterinary Medical Society, and the veterinary public, on the commencement of the third session of that useful assembly. When we recollect the inauspicious circumstances under which its meetings commenced, the discord which was attempted to be sown among its members, the lukewarmness of the profession generally, and the opposition, both negative and positive, which it encountered from those who ought to have been deeply interested in the progress of veterinary science, it is a matter of sincere congratulation to those of whom it is composed, that the Society yet exists; that it is, on the whole, so fairly attended; and that it is occasionally honoured by the presence of some of our elder brethren of human medicine. There stand enrolled on the books the names of fifty-seven members, including the very *élite* of our profession, in the neighbourhood of the metropolis, at least; with many highly and justly esteemed by us in distant parts of the country: while no fewer than sixty-five human practitioners, and including many a one of which the medical world is justly proud, have enrolled themselves as honorary members. We do not overrate the value of the Society when we declare it to be our firm opinion, that, next to the granting of commissions to cavalry veterinarians, and the establishment of veterinary periodicals, nothing will so essentially contribute to the improvement and respectability of our profession. The world might have continued to have judged of us by the too numerous instances of ignorant and incompetent men who had crept in among us, and medical men might have estimated us according to the acquirements and intellectual worth of the farrier, from whose grade in society we have been struggling to emerge; but we are proud to say that there have been read in this Society, and that our Journal has been enriched by, papers that would not have done discredit to any of the societies of our elder brethren; and discussions teeming with information, and most honourable to those who were engaged in them, have ensued on some of these essays.

It would be invidious for us to refer to particular papers as illustrative of our assertion; but we are assured that, when the

Transactions of the Veterinary Medical Society are, at no great distance of time we trust, given to the public, not scattered over the pages of our humble periodical, but collected, as they deserve to be, in a volume of some bulk, the profession will rank this institution amidst its most valued ornaments.

There is one circumstance particularly honourable to the Society: the discussions may occasionally have been warm, perhaps *a little* too personal, but party spirit has never found its way among them, and scarcely an expression has dropped from a single individual that could have given umbrage to those who differed most widely from him on veterinary politics. The avowed object of the Society, the search of truth and the improvement of veterinary practice, has been undeviatingly pursued. Wars and rumours of wars existed without, but in this assembly remained that quietude of the passions and stillness of the mind which were most favourable to scientific discussion; and this without any compromise of principle, for they who were most committed in the cause of veterinary reform, were thus quietly but securely, unobservedly but rapidly, accomplishing their glorious object. In proportion as veterinary science improved, veterinary education would improve too. Veterinary teachers must keep pace with the progress of the times. They will be forced, in spite of themselves, to adopt plans of amelioration. In proportion as the views of the practitioner become more enlarged and correct, and he understands the important and influential principles of his profession, will he rise in public estimation. The ardent reformer well knows that, more surely and more rapidly than by open contention, he is approaching these sacred objects which he had sworn to accomplish.

In the character which the Society has thus obtained, and the known determination of the most zealous of its members, we have the assured pledge, that good feelings and good principles will never here be wrecked; that men of every party may mingle fearlessly in it, and that he must be a bold man indeed who would dare to lift the torch of discord. If the discussions during the latter part of the last session were not quite what they used to be, the cause was plain enough,—the chairmen did not always sufficiently enforce salutary authority—instead of superintending and guiding the debate, they occasionally mixed too much and

too warmly in it—they suffered it to become a mere conversation, engrossed during the whole of the evening by two or three persons, and in which there did occur pettish and satirical and improper short sentences, for which in a well-regulated debate there would neither be opportunity nor inclination. A hint on this subject will be enough; and the president will find no difficulty in making the discussions as pleasant, and instructive, and as numerously attended as they were wont to be.

We would seriously call on every member of the Veterinary Medical Society to let his attendance be as frequent as his avocations will permit. In the multitude of counsellors there will be wisdom. When many are collected, there will be greater chance that important truths will be elicited; and, besides this, they who usually take a leading part in the discussion will perform their task with greater spirit and success, when surrounded by their brethren, than when they are admonished by the emptiness of the benches, that veterinary surgeons care little about veterinary science.

There is one very important advantage which country members possess, and of which they occasionally avail themselves, but not so often as their own interest requires; viz. the communication of cases of rare occurrence, or doubtful practice, or professional conduct, which are taken into serious consideration by the Society, and the result of the discussion sent to the applicant by the secretary.

Mr. John Percivall was elected President for the ensuing session; Messrs. John Field, jun., King, sen., W. Percivall, and James Turner, were appointed Vice-Presidents; and Messrs. Goodwin, Green, Langworthy, Lythe, Marshall, and T. Turner, were placed on the Committee.

Extracts from Journals, Foreign and Domestic.

Experiments on the Action of Cantharides on the Urinary Organs.

By M. Barthelemy, *Sen.*

[Recueil de Médecine Vétérinaire, Jan. 1830.]

In horses which have died of pleurisy or pneumonia, the kidneys have often been found pale, flabby, and softened, as if

they had been submitted to long maceration. Some veterinarians having been of opinion that this alteration of structure was the result of the action of cantharides introduced into the system by means of blisters, M. Barthelemy, who doubted the truth of this, and had seen the same alteration in horses to which no blisters had been applied, made the following experiments.

On the chests and bellies of six horses destined to be slaughtered, he applied much more extensive blisters than those which are usually employed in cases of pneumonia. To increase the activity of the plaster, from two to four drachms of powdered cantharides were used, and the application was renewed every morning, and even twice in the day, from eight to fifteen days, or a longer time than a blister would be employed in any chest affection.

The application produced a perfect and extensive blister, but the kidneys did not seem to be in the slightest degree affected.

Not content with this result, the Professor submitted the other three horses to the action of cantharides taken internally. From two to four drachms were administered daily, from ten to twenty days, without the kidneys presenting any alteration of appearance or structure, nor during the life of the animals were there any symptoms of inflammation of the kidneys or the bladder.

The ox seems to bear without injury very powerful doses of cantharides. In the department of Gers it is usual to give from three to five drachms of powdered cantharides to bring on the periodical œstrum. The cantharides are usually infused in white wine.

VETERINARY MEDICAL SOCIETY, Oct. 6, 1830.

Mr. JOHN FIELD, Jun. *in the Chair.*

Mr. Dewhurst's paper on Rabies, contained in the present number of THE VETERINARIAN, was read.

Mr. *Field* thought that the observations of Mr. Dewhurst were valuable, as bearing on that most important consideration, whether rabies could occur without inoculation from a rabid animal.

Mr. *Slocombe* recollected the case of a bitch that had been tied up for twelve months, and then was let loose on a very hot day. She followed her master, who was on horseback, half a mile, and then suddenly left him, and bit several dogs, most of which were destroyed. According to the account of the gentleman and his servants, no dog could have had access to her. One of the dogs which she bit remained in the neighbourhood, and apparently well, ten days, and then disappeared. One of the puppies that was at the time with her, three months old, died four nights afterwards, and, as he thought, mad, for it knocked

itself against the walls, and threw about the hay. There was discharge from the nostrils of the puppy.

Mr. *Green* asked whether Mr. Dewhurst had seen a case of hydrophobia in the human subject, and what he considered to be the diagnostic symptoms.

Mr. *Dewhurst* replied, that the only true diagnostic symptom was the dread of water.

Mr. *Green* observed, that Mr. Youatt had recorded, in the last VETERINARIAN, a case of rabies in the dog in which was also a dread of water.

Mr. *Dewhurst* believed that rabies might occur spontaneously. Bites from a cat had produced hydrophobia in the human being. Might not rabies have been spontaneous in these cats? In the dog to which he referred, there were patches of inflammation on the stomach; and through the whole of the intestines the mucous coat seemed to be painted as with venous blood, and with several patches of ulceration. He thought this a case of spontaneous rabies.

Mr. *J. Turner* asked, whether Mr. Dewhurst was aware that in any case of spontaneous rabies the patient had recovered.

Mr. *Dewhurst*.—This was a supposed case of spontaneous rabies. I have not had much experience with regard to these cases, but I do not know why they should not recover.

Mr. *J. Turner*.—Is there any case of cure of supposed spontaneous rabies?

Mr. *Field* observed that, in cases of abdominal irritation, and particularly in cases of intussusception, there may be some symptoms of rabies, as savageness, but not the recognized precursor symptoms. His father had attended a case in which the dog was exceedingly savage, bit at every thing, and flew at him: he refused both food and water, and at length died. It proved to be a manifest case of intussusception. He regretted that the case mentioned by Mr. Slocombe had not been more closely watched, as we might then have had some data on which to reason.

Mr. Dewhurst's second proposition was then discussed—that inflammatory diseases, and particularly those of the viscera, may be mistaken for rabies.

Mr. *Slocombe* recollected a Newfoundland dog which was lying in his kennel with his mouth open, snapping at every thing. It did not, however, run about in search of victims. Two drachms of aloes were given: the dog was well purged, and recovered. He thinks that, had the case been neglected, rabies might have resulted.

Mr. *Field* asked of Mr. Dewhurst, whether inflammation of, or

irritation about the part bitten, was not often a precursor symptom in the human being?

Mr. *Dewhurst*.—Yes: the first case that I saw was that of a boy: a Goulard lotion had been applied to the wound instead of excising it. The boy was continually rubbing his wrist, on which the bite had been inflicted. There were twitchings about the face and throat. Mr. Cæsar Hawkins gave him prussic acid in small doses, and had so much command over him, that he could make him swallow the medicine, although it was accompanied by painful effort and spasm; but, otherwise, if water was offered to him, or a looking-glass presented, a violent paroxysm ensued. He died three days after the first appearance of the disease. The pulse was quick and bounding, and the boy expired in great agony. There appeared to be much increased vascularity of the brain and its membranes. The back part of the tongue and the fauces were highly inflamed.

The second case which he saw was that in which amputation was performed without success. The symptoms were nearly the same.

Mr. *J. Turner*.—Some gentleman has recommended that the principal trunk of the nerve above the part bitten should be excised. Has Mr. Dewhurst any experience of this?

Mr. *Dewhurst*.—None. I had a relative who had a dog decidedly mad, and into whose veins warm water was injected, and he recovered; and, I think, from the influence of this operation. The same operation has been tried on the human being, but has not succeeded in this country. I recollect experiments with the nux vomica. A ligature was applied round the limb above the part on which the poison was applied, and no effect was produced. In another case no ligature was applied, and the dog died. Will this throw any light on a mode of treatment that it may be worth while to adopt in cases of persons bitten by rabid dogs?

Mr. *Langworthy*.—In the dog, is there irritation of the bitten part?

Mr. *Dewhurst*.—I have seen a few cases in which this was observed. I could not learn whether this occurred in the old woman's dog.

The third proposition was now discussed.

Mr. *Dewhurst* had no doubt that ungratified sexual appetite, and other circumstances of excitement connected with sexual desire, or the love of offspring, were causes of rabies. He spoke of the tiger robbed of her young exhibiting every symptom of furious madness. He referred to the case of the elephant at Cross's menagerie, whose fury could not be restrained. He had heard that wolves often became mad at these periods.

Mr. *J. Turner* thought that there were two circumstances which threw considerable doubt on Mr. Dewhurst's hypothesis. An immense number of mares, kept in high condition, are never allowed to have sexual intercourse, and stallions are frequently worked through life with the same privation, yet spontaneous rabies is unknown in the horse.

Mr. *Dewhurst.*—But these animals are kept at work, and the labour required from them, and the subjection in which they are held, does not afford the passions their natural scope and range; or although some may be kept almost in a state of idleness, they are yet under the governance of man.

Mr. *Youatt* observed, that he had refrained from joining in the debate until the time for adjournment was nearly arrived, because he felt that he was here on his trial before a jury of his confreres, and he wished to hear all they might say respecting certain notions of this dreadful disease, which he had lately ventured to lay before the public. He must, however, acknowledge, that his opinions were unchanged by the debate which had taken place. Neither Mr. Dewhurst nor Mr. Slocombe had produced a case of manifest spontaneous rabies. Mr. Dewhurst had not proved the impossibility of infection: he had not given a detail of symptoms undeniably characteristic of rabies; and he had given an account of post-mortem appearances not consistent with rabies. He (Mr. Y.) had never seen this painted appearance of the intestines in genuine rabies, and rarely any patches of inflammation.

Mr. Slocombe's first case was clearly one of phrenitis. It was the necessary consequence of the bitch having been confined for a twelvemonth, and then suffered to gallop after a horse in a sultry summer's day. We only hear of her that she bit several dogs, as in the ungovernable paroxysm of inflammation of the brain she was likely to do. We have no detail of other symptoms, or of post-mortem appearances, nor an account of any of the dogs that were bitten becoming rabid. One disappeared ten days afterwards, an earlier period for the appearance of the disease than any recorded; and the rascality and thievery of some human being would much more rationally account for the disappearance of the dog than the occurrence of rabies. The discharge from the nose, and the beating of the head against the wall, would clearly point out distemper as the cause of the death of the puppy, to say nothing of the unprecedented shortness of the period of the supposed appearance of rabies. The case of the third dog was that of intestinal irritation, which the two drachms of aloes relieved.

As to the want of sexual intercourse on the power of maternal affection, he imagined that Mr. Dewhurst had confounded that

aberration of intellect, that temporary lunacy which such causes might produce, with that affection of one system of the nerves only, not necessarily connected with disturbance of the intellectual faculties, and in many, and the most affecting cases of hydrophobia, not accompanied by that disturbance.

He would not repeat what he had lately submitted to the public in another form; but he must confess that he should require far different and stronger cases, before he could be brought to believe that rabies ever had a spontaneous origin.

Mr. *Dewhurst* was still of opinion that rabies did sometimes occur spontaneously. The old lady's dog had not been liberated for two months. During what period of time the virus might lie dormant in the system he could not say. He believed that this was a case of spontaneous rabies; and he had often found the intestines highly inflamed, and extensively ulcerated, when examining the carcass of the rabid dog. He recollected a case examined by Mr. Brookes, in which the intestines were extensively ulcerated, and especially towards the cæcum; and there was this painted appearance of the mucous membrane of the intestines. The stomach in this case was full of indigesta. It must, however, have been spontaneous in the first rabid dog.

Mr. *Field.*—Many of the pests of the human and quadruped races were, doubtlessly, at first of spontaneous origin, although now clearly propagated by infection alone.

The hour for closing the debate having now arrived, the meeting was adjourned.

BOOKS RECEIVED FOR REVIEW.

The Voice of Humanity for the Communication and Discussion of all Subjects relative to the Conduct of Man towards the inferior Animal Creation, No. I. Price 1s.

Moral Inquiries on the Situation of Man and Brutes. By Lewis Gompertz, Esq.

On the Glanders in the Human Subject. By John Elliotson, M. D. Cantab. F. R. S. &c. &c.

A Practical Treatise on Glanders and Farcy in the Horse, descriptive and explanatory of its Origin, Progress, and Termination, and the most effectual Methods of Treatment and Cure. By Richard Vines, Veterinary Surgeon, Teacher of Anatomy and Physiology at the Royal Veterinary College. Price 12s.

TO CORRESPONDENTS.

"A Country Practitioner" must have known full well that his letter would not be inserted. When he complies with that which we require, and we think justly require, and which we always will require from our controversial correspondents, his communication shall appear; and, *if he wishes it, and thinks it will serve his cause*, verbatim et literatim.

Crito. We shall await *a little while longer* the probable termination of Mr. Bracy Clark's work before we continue our review.

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ANATOMY OF THE HORSE.

[Continued from p. 545.]

SUPERFICIAL POSTERIOR BRACHIO-CRURAL REGION.

EPITROCHLO-CARPEUS.—*Flexor metacarpi externus.*

Situation.—Postero-external side of the arm.

Form.—Elongated; and flattened from without inward.

Attachment.—Superiorly, to the postero-inferior part of the external condyle: inferiorly (by one division of its tendon) to the os trapezium; (by the other) to the head of the outer small metacarpal bone.

Relations.—Externally, with aponeurosis and skin; internally, with the flexor perforans: postero-internally, with the flexor accessorius sublimis, and next muscle; antero-externally, with the flexor accessorius profundus.

Structure.—The superior attachment is mostly tendinous. The surfaces are partially aponeurotic. The fleshy belly has two wide tendinous intersections uniting below the middle of the arm to form a broad, flat, thick tendon, which at the knee bifurcates into a broad flattened division, and a long narrow round one: the latter is continued down at the back of the knee, in contact with the capsular ligament, enveloped within a tendinous sheath.

Action.—To bend the leg.

EPICONDYLO-CARPEUS.—*Flexor metacarpi medius.*

Situation.—Posterior part of the arm.

Form.—Elongated; flattened.

Attachment.—Superiorly, from the external condyle of the humerus; also from the olecranon: inferiorly, to the trapezium.

Relations.—Posteriorly, with the faschia and skin; anteriorly, with the flexor perforans: externally, with the preceding muscle and flexor accessorius sublimis; internally, with the following muscle.

Structure.—Superior attachment, tendinous; surfaces partially aponeurotic. Its belly has a single broad tendinous intersection, which terminates below in a thick flattened tendon, having its under surface thinly covered with fleshy fibres. The part attached to the olecranon is but a narrow thin fleshy slip.

Action.—To bend the leg.

EPICONDYLO-METACARPEUS.—*Flexor metacarpi internus.*

Situation.—Postero-internal side of the arm.

Form.—Longer, but not so broad as the preceding muscle.

Attachment.—Superiorly, to the internal condyle of the humerus; adhering to the capsular ligament of the elbow joint. Inferiorly, to the head of the internal metacarpal bone.

Relations.—Posteriorly and internally, with the faschia and skin; internally, with the last muscle; anteriorly, with the radius, and humeral blood-vessels and nerves.

Structure.—Superior attachment, tendious; in part, fleshy. Surfaces aponeurotic. Just above the knee it sends off a narrow flattened tendon, which passes through a tendinous theca.

Action.—To bend the leg.

ULNARIS ACCESSORIUS.—*Flexor accessorius sublimis.*

Situation.—Posterior part of the arm.

Form.—Elongated; thick; fusiform.

Attachment.—Superiorly, to the postero-internal part of the ulna, below the olecranon: inferiorly, to the tendon of the flexor perforans.

Direction.—Oblique: from above downwards; and from without inwards.

Structure.—Superior attachment tendinous in part, but mostly fleshy. Inferior surface, aponeurotic. A little above the middle of the arm it sends off a tendon which passes under the posterior annular ligament of the knee, and there unites itself to the tendon of the perforans.

DEEP POSTERIOR BRACHIO-CRURAL REGION.

The following muscles constitute the deep-seated flexors: they lie anteriorly to and are concealed by the superficial.

FLEXOR PEDIS PERFORATUS.—*Epicondylo-phalangeus.*

Situation.—Deep-seated in the posterior part of the arm.

Form.—This and the flexor perforans form one thick, compact, cylindroid fleshy mass; the tendons issuing from which are long and flattened, and adapted by convexity and concavity of surface to each other.

Attachment.—Superiorly, (and in common union with the following muscle) to the lower side of the internal condyle: inferiorly, to the upper and back part of the os coronæ.

Relations.—Posteriorly, to the three flexores metacarpi and flexor sublimis; anteriorly, to the radius and flexor profundus. Along the antero-internal border run the radial blood-vessels and nerves.

Structure.—The superior attachments of the mass of muscle (common to this and the perforans) are in part fleshy, but principally tendinous: the tendinous part being underneath and applied to the trochlea of the condyle, which in the motions of the joint it plays over. The mass is divisible (more or less completely) into three or four or more distinct portions, whose surfaces are partly aponeurotic, and whose interiors (with the exception of the one next the radius, which is commonly the most completely separable) are intersected with layers of tendon. Just above the knee it contracts its substance and becomes tendinous, forming two flattened tendons which pass down under the posterior annular ligaments. The posterior of these tendons, the tendo perforatus, is neither so broad nor so flat as the other; it presents a concave surface anteriorly, to embrace its companion in front. At the back of the fetlock joint, it expands so as more completely to cover the perforans, and sends off a crescentic process which surrounds that tendon. At this part also a tendinous theca includes both tendons, having attachments on each side to the sesamoids. Opposite to the small pastern joint, the perforatus splits into two divisions, having the perforans passing between them: the triangular interval left is occupied by a portion of membrane which is so attached as to form a circumscribed synovial bag.

Action.—To bend the fetlock and pastern joints; and also to assist in the flexion of the knee.

FLEXOR PEDIS PERFORANS.—*Epicondylo-phalangeus.*

Situation, form, and *superior attachment.*—The same as the preceding.

Inferior attachment, to the posterior concavity of the os pedis.

Structure.—The fleshy origins and bellies of this muscle are confounded with those of the perforatus. As they approach the knee, however, they separate; and then the perforans runs immediately behind the perforatus. At the knee, like its fellow, it is wholly tendinous, and here indeed partakes somewhat of the nature of cartilage, as it passes through the same synovial bag as encloses its companion. Below the knee, these tendons assume different shapes; the perforans being cylindroid, the other

flattened; and this admits of the adaptation of their surfaces to each other. In their passage down the leg, they are connected together and invested by cellular tissue: a loose cellular substance also connects them to the suspensory ligament and cannon bones. The perforans tendon at the back of the fetlock spreads again in breadth, and re-assumes a cartilaginous texture, and is likewise (the same as at the knee) surrounded by a synovial sheath, formed principally by the tendo perforatus; from which it only emerges at the division of the latter. Opposite to the os coronæ it is destitute of any tendinous covering, and is invested by cellular membrane only. It next sinks into the substance of the frog, passing over the navicular bone, where it becomes cartilaginous, and adapted in shape to the posterior articular surface of that bone, a *bursa* or circumscribed synovial cavity existing between them. Finally, it ends in an expanded termination which is broadly implanted into the posterior concavity of the os pedis.

Action.—To bend the foot. It will also assist in the flexion of the pastern, fetlock, and leg.

RADIALIS ACCESSORIUS.—*Flexor accessorius.*

Situation.—Deep-seated, along the infero-posterior side of the arm.

Figure.—Irregular; short; flattened: upper part, bifurcate.

Attachment.—Superiorly, mesio-posterior part of the radius: inferiorly, its tendon joins that of the perforans.

Relations.—Anteriorly, with the radius; posteriorly, with the bellies of the perforatus and perforans: internally, with the radial blood-vessels and nerves.

Direction.—From above downwards, inclining in a sort of curve from without inwards.

Structure.—It has two beginnings. One is pyramidal, elongated and tendinous, and extends high up the radius: the other is triangular and fleshy, and is attached lower down. They both unite to form one fleshy belly, which is intermixed with slips of tendon, and finally ends in a single narrow flaettned tendon.

Action.—To assist the perforans.

LUMBRICI, ANTERIOR ET POSTERIOR.—*Lumbricales.*

Consist of two pairs of pale, delicate, small muscles, having long slender tendons.

The lumbrici posteriores are to be found invested in adipose membrane, adhering to the inner side of the tendo perforans, about one-third of its length upwards from the fetlock. Here-

abouts they are broad; but they grow narrow as they descend, assuming altogether a pyramidal figure; and they give off at the fetlock slender flattened tendons, which appear to unite to form the crescentic border of the cellular and tendinous sheath at that part inclosing the tendo perforans.

The lumbrici anteriores lie within the spaces left between the small metacarpal bones and the suspensory ligament, under cover of the flexor tendons. They are longer but thinner than the former, and may be classed among the half-penniform muscles. They adhere for some way down the leg to the small metacarpal bones, become tendinous about the middle of the cannon, turn round the tuberculous terminations of the small metacarpals, and vanish in the adipose substance in front of the limb connected with the extensor tendons.

Action.—The use of these small muscles seems to be unknown; at least, it is by no means well defined.

[To be continued.]

Communications and Cases.

Ars veterinaria post medicinam secunda est.—VEGETIUS.

ON THE HABITS AND VICES OF HORSES.

By JAMES CASTLEY, *V. S. 12th Lancers.*

[Continued from vol. ii, p. 418.]

ARE we not all, more or less, the slaves of habit? "A man," says the Spectator, "may take snuff, or smoke, or chew tobacco, until he is unable to pass away his time without." The longer we indulge in any thing, the more difficulty we shall find in leaving it off. I once knew a young man, who, having taken up the practice of sucking his thumb whilst a child, could never afterwards wholly overcome this puerile habit. And I recollect it was said of him, on the occasion of his getting married to a very pretty girl, that he actually retired from the *bridal feast*, in order to indulge the irresistible desire he felt of *sucking his thumb for half an hour!!*—Surely cribbiting is nothing to this.

Now, if we, with all our boasted reason and resolution, are

such creatures of habit, how can we wonder at any thing of this kind which we may observe in the lower animals, especially the domesticated horse; who, in consequence of the artificial state in which he is kept, is perhaps more liable than any other to learn a number of tricks, to shew odd propensities, and to acquire bad or vicious habits? Nor ought we to be at all surprised that these should soon become so confirmed and inveterate, as to render the chance of a radical cure, at all times, to say the least of it, very doubtful and uncertain.

Much has lately been said on the subject of cribbiting. Mr. Yare has put forth two rather lengthy papers in the Sporting Magazine upon this point; with respect to which he seems to consider us all in a very deplorable state of ignorance. Indeed, it must be confessed, the remarks this gentleman makes relative to the *general stable knowledge* of the veterinary profession are by no means flattering. "I have never yet," says he, "met with one of them who could fairly lay claim to the character of a real stable-man." Now, although, generally speaking, we may not be quite so much "at home" in a stable as Mr. Yare, yet I hope there are many amongst the veterinary profession who may be said to have quite as much tact and talent for observation as he has, and who have closely studied the habits and economy of the animal they profess to treat. And, after all, may we not fairly ask—what is the amount of all the real information this gentleman has been so kind as to give us in the two aforesaid lengthy communications which he has thought proper to push into the world? Do not these productions remind one of the mountain in labour? May it not, in truth, be said of them—*there is great cry and little wool?* For my own part, I protest I felt sadly disappointed on perusing, what I cannot help designating *a tissue of irrelevant, profitless twaddle.* In saying this, I mean no offence to Mr. Yare; but what he has thought fit to publish is fair matter of criticism. The fact is, the whole secret of cribbiting may be told in a very few words. It is neither more nor less than a bad habit; only, one of a great number that horses are very liable to contract.

I have had an opportunity of seeing Mr. Yare's muzzle tried; and I should say it is a very ingenious contrivance to *prevent cribbing.* Let us call things by their proper names:—this it certainly does most effectually. But I must be allowed to doubt its going the length of a *radical cure.* I wish it may; for, as our friend Mat. Prior says,

> "Such truths," says Dick, "are worth believing,"
> But still Dick look'd as unbelieving.

And now I shall endeavour to redeem the pledge I gave in a former paper on this subject, and which appeared in THE VETERINARIAN more than a year ago, under the signature of a "Looker-on;" where it has been proposed to arrange the habits and vices of horses under the three following heads, viz. those we notice in the stable; those connected with riding; and those we observe on driving.

In enumerating as many as I could call to mind of the first class, I have perhaps omitted some: I ought, for instance, to have mentioned the practice of bolting or swallowing the corn whole; a habit which greedy feeders are apt to get into, especially when fed in open stables along with others, as in barracks: in such situations a quick and a slow feeder should never be allowed to stand in contact, as the one will almost inevitably get more than his own allowance of oats, to the detriment of the other, and be likely to contract this wasteful habit besides. When a horse is known to swallow his corn whole, it is customary to mix with it a quantity of chaff or chopped straw; and this has generally the effect of making him take more time in masticating. But I have known some instances where the animal would swallow not only oats and chaff whole, but even beans also, as might be seen by their constantly passing unchanged in the dung. In such a case as this, perhaps the only remedy we have is to give the corn in a bruised or broken state.

But the teeth should always be looked to, and carefully examined on these occasions, either when a horse is noticed to bolt his corn or quid his hay; as some irregularity in this apparatus may be the cause of his not masticating his food properly; and especially a sharp ragged state of the edges of the grinders, which, by wounding the inner surface of the cheek or the tongue, and thus checking the process of mastication, may give rise to the habit of bolting the corn whole. I need not say this ought to be immediately corrected by the tooth-rasp.

It may be a little point in stable economy not commonly known, and yet perhaps sometimes of use to know, that there are some horses who will never lie down whilst attached to the manger, or, in other words, as long as they are tied by the head; in consequence of which, they do not perhaps thrive and do so well as they ought. The plain and simple remedy for this is to place the animal in a loose box, and the good effects of this measure will generally be perceived.

These little matters may be well enough known to grooms and those who have the practical care of horses; but ought

they not also to be as well known to every intelligent veterinarian?

I shall now proceed to the second division of the subject, viz. the habits or vices that horses are apt to acquire on riding, or in connection with the saddle. In endeavouring to enumerate these, I shall make such remarks as may occur to me on the way; but I may here observe, that these appear to be more markedly varied and modified by the natural temper and disposition of the animal, than perhaps any others. And, first,—*on saddling*, we find some horses get into a trick of throwing themselves down, or shewing vice in various ways whilst being girthed. This is perhaps more frequently the case amongst troop horses; some of them will get into the habit of dropping upon their knees or pastern joints whenever the girths are drawn tight; and as they stand for the most part without litter, they are liable to contuse and injure those parts. One horse I remember in particular established such a sore in front of the large pastern joint by this practice, that, notwithstanding every precaution, he became quite ineffective, and we were obliged to cast him merely on this account; and we have a very fine mare now in the regiment, that will always throw herself backwards over on being girthed, if the greatest care be not taken, or if an awkward man goes about saddling her. The appointments certainly require to be firmly fixed upon the horse's back, but I am persuaded the men often draw their girths unnecessarily tight, and thus, by punishing the animal severely, not unfrequently originate a habit of this kind. Race horses are apt to become very uneasy at saddling. Whenever a disposition of this sort shews itself, a little precaution ought to be used; particular care should be taken not to draw the girths too tight all at once.

Some horses we find are *very uneasy to mount*, shewing a vicious propensity to bolt whilst you are rising into the saddle: this, for the most part, may be said to originate in a warm temperament, combined with some mismanagement, and may, I think, be generally corrected by kind treatment and good horsemanship. But the circumstance of *curving or setting up the back* on mounting is a very ugly habit, which some horses get into, and which I think they mostly acquire during the period of breaking. It most commonly originates in the inconsiderate practice of clapping a saddle perhaps hastily on the back of a young horse, drawing the girths tight all at once, and then mounting him immediately; whereas, a good colt-breaker, or a person who has some tact in this way, will always take care to let the saddle get warm on the young horse's back before he

attempts to mount him. A steed of this sort will always curve up his back, and fidget about for some time (as if he were going to kick) at first mounting. Now, this may be a great annoyance to a person who is not a good horseman; and it is one of those matters in which a purchaser is liable to be deceived, be he ever so good a judge of horse-flesh.

I recollect, some years since, going to a fair in the county of Limerick with a brother officer who wanted to purchase a horse. We soon found one that both of us liked; and after due trial, in which the animal appeared to ride remarkably quiet and well, we bought him for 40*l.*, and thought we had got a great bargain. The gentleman from whom we made this purchase had said a good deal about soundness, goodness, quietness, and so forth; but after we had paid him the price, he having first taken the precaution of thrusting our two twenty-pound notes *well home* to the bottom of his breeches pocket—a movement which seemed to intimate there was but little chance of our getting them back again—said, "Gentlemen, perhaps I ought to have told you that this horse is sometimes a little fidgetty at mounting, but it is only a way he has; there is no harm in it." We took our bargain home, and the next morning, upon further trial, soon found out the secret. It required a man to hold this steed very fast by the head whilst any one was mounting him; and then he set up his back *like a hedgehog*, for at least a quarter of an hour after, fidgetting about all the time, and threatening to kick every minute; he would then ride as quiet as any other horse for the rest of the day. Nothing, however, could break him of this, to say the least of it, ugly, ungraceful habit; and whenever he stayed in the stable two or three days together, he became very troublesome, notwithstanding the precaution of putting the saddle on for some hours before wanted. But he was a good horse, and that which cannot be cured must be endured. We called him *Bobby Ivers*.

Now, the habit of *stretching* is an annoyance of the opposite kind, in which the animal appears to be giving way under the rider, bending his back downwards at mounting, or whenever he is allowed to stand still; and one would be led to suppose this arises from weakness of the spine: no such thing; it is nothing more than a habit.

These, however, are but innocent tricks, when compared with that of *kicking against the crupper*. This, indeed, is a serious evil, and properly denominated vice; a vice which troop horses, especially mares, are more particularly prone to. "As full of tricks as a soldier's horse," has been a common remark enough. And troopers certainly are somewhat more inclined to mischievous

tricks than others; partly from the pampered life they generally lead; but, with reference to this particular vice, principally, I think, from the long intervals of rest they often have, during which they are, perhaps, but seldom used to the saddle. *I think the more horses are accustomed to the saddle the better;* and I am persuaded it is a good practice, where it can be put in execution without much inconvenience, to let the troops always ride out to water, or to exercise in stripped saddles instead of blankets. And this for two reasons: First, because the horses will not be half so liable to *sore backs* when they come to march; and, secondly, because it will tend moré than any thing else that I am acquainted with, to prevent this very troublesome and ugly habit of *kicking at the crupper,* which often renders an animal not only useless as a military horse, but even dangerous. Many have been cast from the regiments of cavalry for this vice alone. Here, indeed, you " may prevent, but cannot cure."

Some people are fond of teaching their horses tricks. I have seen young men, especially military ones, be at some pains to make their horses *kick up,* either for fun or effect, whilst they are riding them; and this is easily enough effected, by putting the hand back, and pressing or tickling the animal over the top of the croup. Most horses will be ready enough to learn this trick; not so to leave it off again. I have often seen these young gentlemen both annoyed and punished for their folly, by their horses kicking, sometimes not in the most graceful manner, half the time they are going through a field day. For the worst of it is, that, when the animal has once got into the way of it, he will be shewing this pretty little accomplishment on all occasions.

I shall speak of *restiveness generally.* Of plunging, rearing, kicking, bolting, and running against the side of a wall or house with a rider, collectively. These vicious habits, their causes and remedies, are, perhaps, more properly within the province of the riding master than the veterinary surgeon. I may however observe, that although for the most part they may be said to originate in some mismanagement, yet they almost always indicate either a sulky or a violent temperament: in other words, they seem to be varied and modified according to the natural temper and disposition of the animal. There is as much difference in the disposition of horses, as of men. And perhaps there is nothing that more constantly descends in the stock than temper. The more experience we have of these animals, and the more closely we observe particular breeds, or families of horses, the more shall we be convinced of this fact. It is unnecessary to go into proof corroborative of my assertion; every experienced horseman will be ready to subscribe to the truth of this remark. But what

I wish to establish as a point I have more particularly in view, is, that from whatever cause the vicious habits of horses may originate, whether from some mismanagement, from natural badness of temper, or from what is called in Yorkshire a *mistetch*, whenever these animals acquire one of them, and it becomes in some degree confirmed, they very seldom, if ever, altogether forget it. In reference to driving, it is so true, that it may be taken as a kind of aphorism,—if a horse kicks once in harness, no matter the cause, he will always be liable to kick ever afterwards as long as he lives. A good coachman may drive him, it is true, may make him go, but he cannot make him forget his vice. And so it is in riding. You may conquer a restive horse; may make him ride quiet for months, nay almost for years together; but I affirm, that under other circumstances, and at some future opportunity, he will be sure to return to his old tricks again. Of this I have seen many remarkable instances, and, as I like to illustrate by practical examples, I shall take the liberty to relate one. When a very young man, I remember purchasing a horse at a fair in the north of England, that was offered very cheap, on account of his being unmanageable. It was said nobody could ride him. We found that the animal objected to have any thing placed upon his back, and that, when made to move forward with even nothing more than a saddle on, he instantly threw himself down upon his side with great violence, and would then endeavour to roll upon his back. There was at that time in Yorkshire a famous colt-breaker, known by the name of *Jumper*, who was almost as celebrated in that country for taming vicious horses into submission as the famed whisperer in Ireland. We put this animal into Jumper's hands, who took him away, and in about ten days brought him home again, certainly not looking worse in condition, but perfectly subdued, and almost as obedient as a dog; for he would lie down at this man's bidding, and only rise again at his command—carry double, or any thing. I took to riding him myself, and may say I never was better carried for six or eight months, during which time he never shewed the least vice whatever. I then sold him to a Lincolnshire farmer, who said he would give him a summer's run at grass, and shew him, a very fine horse, at the great Horncastle fair. Happening to meet this gentleman the following year, I naturally enough enquired after my old friend. "Oh," said he, "that was a bad business; the horse turned out a sad rebel. The first time we attempted to mount him after getting him up from grass, he, in an instant, threw the man down with the greatest violence, pitching him several yards over his head; and after that he threw every one that attempted to get on his back. If he could not throw

his rider," continued my informant, "*he would throw himself down.* We could do nothing with him; and I was obliged at last to sell him to go in a stage coach." As long as this horse was kept to his work, he continued perfectly quiet to ride, and we believed him radically cured of his vice; but having been turned out, and made fresh, he shewed it again as bad as ever. This, I apprehend, will be found upon close observation to be most generally the case, whatever may have been the means employed. Jumper, like the celebrated whisperer, was supposed to possess some magic charm, by which this wonderful effect was produced. By the way, I may observe, there appears to have been a great similarity between these two men. And those who recollect Jumper will easily recognize the similitude in the following excellent account of the whisperer, extracted from the Rev. Mr. Townsend's Statistical Survey of the County of Cork, and which I take the liberty to introduce here.

"James Sullivan, the whisperer, was a horse-breaker at Cork; an ignorant awkward rustic of the lowest class. He gained this singular epithet by an extraordinary art of controlling in a secret manner, and taming into the most submissive and tractable disposition, any horse or mare that was notoriously vicious and obstinate. He practised his skill in private, and without any apparent forcible means. In the short space of half an hour, his magical influence would bring into perfect submission and good temper even a colt that had never been handled; and the effect, though instantaneously produced, was generally durable. When employed to tame an outrageous animal, he directed the stable, in which the object of his experiment was placed, to be shut, with orders not to open the door until a signal given. After a *tête-à-tête* between him and the horse, during which little or no bustle was heard, the signal was made, and on opening the door the horse was found lying down, and the man by his side playing familiarly with him like a child with a puppy dog. From that time he was found perfectly willing to submit to any discipline however repugnant to his nature before.

"I once," says Mr. Townsend, "saw his skill on a horse, which could never before be brought to stand for a smith to shoe him. The day after Sullivan's half-hour lecture, I went, not without some incredulity, to the smith's shop, with many other curious spectators, where we were eye witnesses of the complete success of his art. This too had been a troop horse, and it was supposed, not without reason, that, after regimental discipline had failed, no other would be found availing. I observed that the animal seemed afraid whenever Sullivan either spoke or looked at him: how that extraordinary ascendancy

could have been obtained it is difficult to conjecture; he seemed to possess an instinctive power of inspiring awe, the result perhaps of a natural intrepidity, in which I believe a great part of the art consisted; though the circumstance of the *tête-à-tête* shews that upon particular occasions something more must have been added to it. A faculty like this would, in other hands, have made a fortune; and great offers have been made to him for the exercise of his art abroad, but hunting and attachment to his native soil were his ruling passions. He lived at home in a style most agreeable to his disposition, and nothing could induce him to leave Duhallow and the fox-hounds."

The days of miracles and of magic are gone by; and however *necromantic* this may look (for I believe no man on earth can account for it), it is nevertheless quite true. There are so many *living witnesses* of the extraordinary power this man possessed, and his mystical art was practised for such a length of time, and on such a variety of subjects, that there is no such thing as doubting the fact. *It is a fact, be it recollected, of the nineteenth century.* My friend, Mr. George Watts, of Dublin, who is a man not at all likely to be swayed by superstitious notions, has told me that he had more than one opportunity of witnessing the wonderful effect of Sullivan's art. "And if I had not seen it myself," he always observes, "I would not believe it." One remarkable instance in particular he relates, which, as it affords another practical example illustrative of the point at which I wish to arrive, I shall take the liberty to repeat. This incident took place at the Curragh of Kildare, in the spring meeting of 1804. Mr. Whalley's *King Pippin* was brought there to run. He was a horse of the most extraordinary savage and vicious disposition; his particular propensity was that of *flying at and worrying* any person who came within his reach; and if he had an opportunity, he would get his head round, seize his rider by the leg with his teeth, and drag him down from his back. For this reason he was always ridden in what is called *a sword*, which is nothing more than a strong flat stick, having one end attached to the cheek of the bridle, and the other to the girth of the saddle; a contrivance to prevent a horse of this kind from getting at his rider. *King Pippin* had long been difficult to manage and dangerous to go near; but on the occasion in question he could not be got out to run at all—*nobody could put the bridle upon his head.* It being Easter Monday, and consequently a *great holiday*, there was a large concourse of people assembled at the Curragh, *consisting principally of the neighbouring peasantry;* and one countryman, more fearless than the rest of the lookers-on, forgetting, or rather perhaps

never dreaming, that the better part of courage is prudence, volunteered his services to bridle the horse; but no sooner had he committed himself in this operation, than *King Pippin* seized him somewhere about the shoulders or chest, and, says Mr. Watts, "I know of nothing I can compare it to, so much as to a dog shaking a rat." Fortunately for this poor fellow, his body was very thickly covered with clothes; for, on such occasions, observes my friend, an Irishman of this class is fond of displaying his wardrobe, and "*if he has three coats at all in the world,*" he is sure to put them all on. This circumstance, in all probability, saved the individual who had so gallantly volunteered the forlorn hope. His person was so deeply enveloped *in extra tegument*, that the horse never got fairly hold of his skin; and I understand he escaped with but little injury beyond a *sadly rent* and totally ruined state of all his holiday *toggery*. The *whisperer* was then sent for, who having arrived, was shut up with the horse all night, and in the morning he exhibited this hitherto ferocious animal, following him about the course like a dog; lying down at his command; suffering his mouth to be opened, and any person's hand to be introduced into it; in short, as quiet almost as a sheep. *He came out the same meeting, and won a race*, and his docility continued satisfactory for a long time; *but at the end of about three years his vice returned*, and then he is said to have *killed a man*, for which he was destroyed.

This anecdote, so well authenticated, affords, I say, another good practical illustration of the point I seek to establish, and the conclusion at which I wish to arrive; viz. that whatever may have been the means employed to check or cure a vicious propensity in a horse, he is almost sure at some future period to return to his old tricks again.

Sullivan used to say he got his secret from a soldier who chanced to be passing by his cottage in a state of exhaustion, and to whom he offered some refreshment, and that he was bound by an oath never to reveal it. Here then, indeed, was a secret well worth knowing. But whatever it was, it seems to have perished—to have descended to the grave with James Sullivan; for I believe there is no man now on earth who can boast of exercising any such power over the horse. His son pretends to some knowledge of it, but he certainly does not possess the right secret: of this I had myself an opportunity of being convinced by ocular demonstration, a few years since, when quartered at Cork. I must crave the reader's patience—one little story more will bring us into port.—"Courage, lads; I see land."

We have in the regiment a remarkably nice horse, called

Lancer, that has always been very difficult to shoe; but seven or eight years ago, when we first got him, he was downright vicious in that respect; and in which I believe consisted the secret of his having been sold at any thing like troop price. When the regiment was stationed at Cork, the farrier-major sought out the present Sullivan, the son of the celebrated whisperer, and brought him up to the barracks in order to try his hand upon Lancer, and make him more peaceable to shoe; but I must say this person did not appear to possess any particular controlling power over the animal more than any other man. Lancer seemed to pay no attention whatever to his charm, and at last fairly beat him out of the forge; he was fain to make his escape from so unruly a customer. Time, however, and a long perseverance in kind and gentle treatment, together with the *exercise of a little tact*, have effected what force could not. The horse is now pretty reasonable to shoe.—Quâ Leonina pellis non perveniet, Vulpina est assumenda.

> The lion's skin, too short you know,
> (As Plutarch's morals finely shew)
> Was lengthen'd by the fox's tail,
> And art supplies where strength may fail.

Here, for the present, I shall break off; observing that this communication has swelled to a greater length than I at first expected. On another opportunity, " when the maggot bites," I shall, however, resume this subject; of which indeed it may truly be said—" thereto hangs many a tale."

ON THE DISEASES OF THE HOCK.

By Mr. W. C. Spooner, *Blandford.*

In surveying the skeletons of animals generally, and of horses in particular, we can scarcely discover a more beautiful specimen of exquisite mechanism than we find in the tarsal joint. It is a part interesting to the physiologist, as illustrating nature's admirable adaptation of structure to the function required; it is of material consequence to the pathologist, as being peculiarly liable to disease; and important to the horseman, as a joint on which greatly depends the speed, strength, and value of the animal. The true knowledge of the nature of joint diseases in the horse is comparatively of recent date. Mr. Turner was the first to point out their frequency in the fore extremity; dispersing thereby the mists of ignorance, accumulated in the course of centuries; and Mr. Goodwin has since very laudably

called the attention of veterinarians to a disease in some respects similar in the hind extremity. Disease of the hock joint, attended with lameness, but unaccompanied by enlargement, was *unknown* (as to its seat) to the old round bone persecutors, whilst more modern practitioners have styled it "*spavin*," "*incipient spavin*," or said that "spavin was coming;" but either present or future, it has been for some time past included under the term *spavin*. On inspection of the hock joint, we observe a prominent ridge, and two concavities, on the tarsal end of the tibia, and two corresponding convexities and one deep depression on the upper portion of the astragalus. The articulation of the astragalus with the ossa cuneiformia, and these with the metatarsi, are nearly flat, and have scarcely any extent of motion. If a mere mechanic were shewn the hock joint, and asked what parts he should imagine were most disposed to "*wear and tear*," he would, I am sure, at once point to the wedge-like protuberance on the lower part of the tibia, and the corresponding concavity in the upper surface of the astragalus, as being nearest the centre of motion. He would fix upon these parts in preference to the gibbosities on the astragalus, as the summit of the former is much more sudden than of the latter, and consequently it has less extent of surface to bear its proportion of superincumbent weight. He would pass over the surfaces of the cuneiform bones, as parts possessing only the simplest office of a joint—"the diminution of concussion;" and this supposition would in some measure be borne out by the physiological aphorism, that in proportion as parts are used, or capable of being used, they are rendered liable to become diseased. It is, then, this part which strikes the mechanic as being most likely to receive injury, which I contend is the frequent seat of disease, which is often affected in cases of true spavin, and generally in those cases where no enlargement is visible. I would not for a moment doubt, that the surfaces of the cuneiform bones may be liable to inflammation, ulceration, or caries; but what I wish to point out is, that the prominent ridge on the tibia and narrow cavity on the astragalus are the parts most disposed, from their formation and uses, to receive injury; most likely when injured to occasion pain and lameness, and are in fact very frequently found diseased: in support of which opinion, I will proceed to mention a few morbid specimens now lying before me.

No. 1, is a specimen of diseased hock procured at the knackers in London: it presents a sad mass of disease, the exostosis being very considerable, and all the bones of the hock completely anchylosed; but besides this, there is a small exostosis in the hollow

on the upper surface of the astragalus. The corresponding tibia I do not possess, and the only history I could obtain of the hock, was, that its late owner was "*as lame as a cat.*"

No. 2 is a specimen of diseased hock, shewing also exostosis and anchylosis of several of the tarsal bones, with a rough bony deposit in the groove of the tibial portion of the astragalus, and ulceration on the ridge of the tarsal extremity of the tibia. This horse was rendered useless by the severity of his lameness, and destroyed in consequence of his inutility.

No. 3 shews a circumscribed bony enlargement on the cuneiform bones, situated in the usual seat of spavin, and occupying only a small extent of surface. Besides this, there was some degree of ulceration in the groove of the astragalus, and still more on the corresponding portion of the tibia, the projecting ridge of which, for the space of more than a quarter of an inch, seemed quite "worn down." The horse was about six years old, and came under my notice a month or six weeks only prior to his death. He was purchased of a dealer, and the enlargement was pointed out; but the horse appearing free from lameness, and the dealer warranting "his hock to stand sound," he was bought. The horse was put to fast work, and though he did not altogether go lame, he appeared gradually to shew a degree of stiffness, and was continually resting the off hind leg. He was found one morning dead in the stable, having strangled himself, by getting his head entangled under the manger. It struck me that the horse had been previously lame, and had, by resting, blistering, &c., been restored to a state of apparent soundness; but I should imagine that his lameness would have returned in a short time, and would ultimately have proved incurable.

No. 4 is a hock which I lately procured, having belonged to a mare that died of apoplexy, and whose case is related in the last number of THE VETERINARIAN. As I am acquainted with the history of her lameness, it would perhaps be as well for me here to relate it. The mare had been used in post work, and first appeared to be lame in the off hind leg, some time in October last year. Her lameness came on gradually, was greatest on moving out of the stable first, and soon disappeared after exercise. No enlargement was any where perceived; but on minute examination, I discovered sufficient heat about the tarsus, to persuade the attendants that the lameness might proceed from the hock; and to strengthen me in my previous belief that it actually did so, the hock was kept wet until the inflammation ceased to be perceptible; and a seton about eight inches in length was then passed under the integuments, and counter-irritation kept up by this means for about three weeks. In a week after the removal of the seton, the mare appeared considerably better, if not en

tirely free from lameness, and being much wanted, was soon afterwards put to work. Her lameness again gradually increased, but she was worked on for about two months (until she could be spared), having a stimulating liniment occasionally rubbed into the hock. She was now taken out of work, fired, blistered, and turned out to grass, where she continued for six or seven weeks. At the end of this period, the mare was taken up, and on being trotted out in hand appeared very nearly free from lameness; a very slight difference only could be perceived in the action of the hind legs. On being put into harness, she kicked violently, and became nearly as lame as ever. The hock feeling warm, was ordered to be kept wet and cold for the space of a week, when the mare appeared as well as when she came up from grass. The mare was now put to slow work in a waggon, and being unused to heavy draughts, she strained her near shoulder severely, and became very lame. Bleeding, blistering, &c. removed this lameness, and after some time she was worked in a coach. Here this unlucky animal had not continued above three weeks, when her lameness before appeared to return. Her shoulder was again blistered, and she got better, but not well. Observing her point her toe on my going into the stable, I was led to believe that she had the navicular joint disease in her near fore foot, which, after death, was found to be the case. She had, however, a good foot, with no tendency to contraction, and no unusual heat or swelling. Her hock all this time got no worse; but as she appeared to have chronic disease both before and behind, she was sent to plough, where she continued till her death in October last. On examining the hock, considerable ulceration was observed on the ridge of the tibia before mentioned; the cartilage on its summit was quite removed, and the bone exposed, with a red line bordering the ulcerated surface. Disease similar in its kind, though less in degree, was found on the corresponding depression in the astragalus, and slight exostosis on the cuneiform bones, but not interfering with any joint, or likely to have occasioned any lameness.

The preparations Nos. 1 and 2 merely shew that the part I have mentioned is subject to disease, in common with other parts of the hock. From No. 3, I learn that considerable ulceration may exist in this articulation, with only a small enlargement further down: but No. 4 teaches that this part is liable to inflammation and ulceration, occasioning pain and lameness, independent of any structural impairment elsewhere; for in this case, I separated all the other bones of the hock, and could not discover the slightest appearance of disease amongst them.

From an examination of the foregoing cases, I think I am justified in drawing the following conclusions:—

First.—That a particular portion of the tibia, and the astragalus (before specified), is liable to inflammation and ulceration.

Secondly.—That it may be diseased with or without spavin.

Thirdly.—That when diseased, from its greater extent of motion, it is more likely to occasion lameness than any other part of the joint.

And, *Fourthly.*—That it is most commonly the morbid seat, in cases presenting no outward enlargement.

With respect to treatment, I should consider it of the last importance to put the animal under remedial care as soon as the lameness is perceived, when inflammation alone exists, and before we have reason to infer that ulceration has commenced. Bleeding from the saphena vein may be of some service (if the vein has sufficient communication with the joint), but counter-irritation must, I should imagine, be the chief hope, and none better than the old means of firing and blistering, continued, perhaps, higher up than is commonly the case. A great advantage attending this strong stimulus, has, I think, been generally lost sight of; "it forces the animal for some time to put the limb in a state of rest." I would thank the Editors of THE VETERINARIAN to express their opinion, whether in cases of joint disease, gone on to a state of ulceration, the articulating cartilage and synovial membrane can be again secreted; whether, in short, a cure may be effected. The point is as interesting as it is important, either as respecting the hock, or navicular joints; and I should imagine that Mr. Turner, from his sanguine expectation of cure in cases of the latter complaint, is of opinion (though he does not actually express it) that new cartilage and membrane may be secreted. If the foregoing observations should induce other practitioners to make minute examination of diseased hocks, and state their remarks upon them, I do not imagine (though the length of this paper requires an apology) that it has altogether been written in vain.

CASES OF DISLOCATION OF THE PATELLA; CALCULUS IN THE ILEUM OF THE DOG; AND FRACTURE OF THE RIBS AND DORSAL VERTEBRÆ.

To the Editors of "The Veterinarian."

Gentlemen,

SHOULD the following cases be deemed of sufficient interest to merit insertion in your justly valued Periodical, by so doing you will much oblige, Your's respectfully,

W. J. GODWIN.

Lichfield.

CASE I.

ON April 18th, 1829, I was called in to a brown pony, four years old, the property of W. Adie, Esq. of Chorley: he ap-

peared in great pain, respiration hurried, perspiring profusely, the near hind leg extended directly backwards, and incapable of being moved. I was informed he had been affected several times previously in a similar manner. Perceiving the rectus and vasti muscles could not perform their functions, I was led to an examination of the stifle joint, when I discovered the patella to be dislocated outwardly: by a slight inclination of the leg forward, it was with ease reduced to its proper situation, when he walked perfectly sound; but when turning him towards the side affected, it again slipped from its articulation. I reduced it as before, ordered cold applications to the joint, and his head to be tied up. To my surprise, when attending him on the following morning, I found the patella on the contrary side similarly displaced; it was reduced with a slight degree of pressure, and he was again rendered capable of moving with ease: the cold applications were continued a few days, then a blister applied to both joints, and the horse turned to grass.

Having ascertained that he had been thus affected only when in a low state of condition, never having sustained any injury of which they were aware, the remarkable ease with which the patellæ were restored to their articulations, and both joints being alike affected, induce me to consider it as proceeding from the want of a sufficient degree of convexity in the natural conformation of the anterior condyles of the os femoris.

CASE II.

A valuable pointer bitch, the property of Mr. J. Upfill, of Birmingham, was put under my care: she presented a very emaciated appearance, in which condition she had been for four or five months. Her evacuations were for a day or two very thin and copious, and afterward for several days nothing was passed: upon pressing the abdomen with both hands, a hard substance was distinctly felt in the inferior part of the umbilical region. She was destroyed, and upon post-mortem examination, a calculus was discovered in the ileum, about the size and shape of a hen's egg, the nucleus of which was a portion of hair: the coats of the intestine were considerably thickened and enlarged, so as to form a kind of sac for its retention. Anterior to this was another consisting of a ball of hair, covered with a layer of earthy matter about the eighth of an inch thick; and next to this a ball of hair, of less dimensions, intermixed with a gritty substance. The stomach contained a large quantity of hair, and a portion of the omentum, about the size of a crown piece, was thickly studded with small white calculi, the largest about the size of a pea, and particularly hard.

CASE III.

May 26th, 1830, I was requested to attend a black mare, the property of Mr. H. Mills, of Greensbury Hill. I found her lying down, apparently free from pain; pulse 27; the urine gradually trickling away; eating greedily any thing offered to her; occasionally attempting to rise, but unable to command the posterior extremities, the application of any stimulus to which not causing the slightest excitement, but, when applied to the shoulders, she made violent efforts to raise herself.

This combination of symptoms of course caused a more minute examination, when, drawing the fingers carefully along the ridge of the back, I discovered a slight depression of the spinous processes of the eleventh and twelfth dorsal vertebræ, and, upon urging the mare to move, a crepitus was easily distinguished. After inquiring into the history of the case, I was informed that on the previous morning, when trying to catch her in the field, she leaped at the gate, but failing to clear it she fell upon her back on the opposite side, lay a short time, then got up and trotted to the stable: she was saddled, and Mr. Mills, who is a heavy weight, cantered her upwards of three miles, when she became unusually dull and sluggish, which occasioned him to leave her at Mr. Adams's lime works, where she was bled, and Mr. Mills, when returning at night, found her (as he considered) much better, and attempted to take her home; but when he had proceeded about a mile on the road, she was scarcely able to move herself: she was then left at Mr. Strongitharm's, of Calder Field, where she lay down in the night, and was afterwards in the state I found her when called in, which I have previously described. She was destroyed in my presence, and, upon post-mortem examination, I found the twelfth dorsal vertebra fractured through its body; the eleventh, twelfth and thirteenth ribs on the near side were also fractured about two inches from their articulation with the vertebræ, the medulla spinalis divided, and a small piece of bone then sticking in its sheath.

CORRECTION OF THE REPORT OF THE DISCUSSION ON RABIES.

By Mr. LANGWORTHY.

To the Editors of "The Veterinarian."

Gentlemen,

ON reading, in your last number, the discussion which took place on rabies canina, at the Veterinary Medical Society, I

find you have the following sentence:—" Mr. *Langworthy*.—In the dog is there irritation of the bitten part?" I beg to say that I asked no such question: the discussion was, at that time, confined to whether rabies was or was not a spontaneous disease; and, in consequence of a remark made by Mr. J. Field, that in the human subject he believed a general symptom was irritation about the part bitten, I asked Mr. Dewhurst, the author of the paper, whether the same symptom was *always* present in the dog, because, if not, I considered it a material point, and one upon which we had some right to infer (it being a *general* symptom in the human subject, which is always the effect of inoculation), that, where it did *not* exist in the dog, it may be a spontaneous case, and that, where it did exist, it was one of contagion: to which Mr. Dewhurst said he perfectly coincided.

For the correctness of this statement, I beg to refer you to the members present, and to say, I should not have troubled you to insert this, but I thought it right to correct so palpable an error.

Nov. 16th, 1830.

We are obliged to Mr. Langworthy for his addition of the word *always* to the question, which, although he denies it, he really, and by his own shewing, *did ask*. As to the *reason* of the question, we regret that we should have omitted that which Mr. Langworthy deems so material. Our report contains but the substance of the discussion. Did we give a two hours' debate verbatim, it would occupy the whole of our Periodical. They alone who attempt to give a faithful summary of a desultory debate, know how difficult is the task. We have endeavoured to give this summary to the best of our ability; and have the satisfaction of being able to say, that the charge of *palpable error*, or doing *injustice* to the *speakers*, has rarely been made.—EDIT.

MINUTES OF EVIDENCE

BEFORE A COMMITTEE OF THE HOUSE OF COMMONS ON THE BILL TO PREVENT THE SPREADING OF

CANINE MADNESS.

[Continued from p. 645.]

William Babington, Esq. M.D., called in and examined.

Has the case of hydrophobia come particularly under your attention?—I have had an opportunity of seeing several instances of the disease; but I do not say that it has come very particularly under my consideration.

Have the goodness to describe any cases you have had for some time past under your notice?—It has not occurred to me to meet very lately with any case of this disease; and though I should be able to go a great way back in the enumeration of the cases I have seen, they are not very numerous.

Will you have the goodness to describe to the Committee what has been the progress of the disease from the time of the discovery of the person having been bitten by any animal, and the general effect on the patient during that time?—With reference to the cases which have fallen under my observation, I should say that the interval between the accidents from which the disease arose, and the occurrence of the disease itself, might be averaged at about six weeks or two months. The disease may be said to mark itself, in the first instance, by despondency and general indisposition, followed by very high excitement and extreme irritability, and general spasmodic seizures, affecting the respiration more especially; susceptibility to excitement of every kind, as, for example, to the impression arising from exposure to cold air, and to the sound, taste, or sight of liquids, terminating in convulsions, exhaustion, and death; the disease not in any case extending beyond the period of three or four days.

Has there been any case within your knowledge of the disease arising from any other cause than that of having been bitten by a rabid animal?—No; the impression upon my mind is, that it never does arise from any other cause than the direct agency of its own peculiar poison.

The Committee feel that the House, in referring the question of canine madness, and the means of preventing it, to their consideration, have called upon them to consider, as a measure of police justifying preventive remedies, whether the disease has or has not increased, in your opinion; and from your observation, what is the fact?—I have no hesitation in saying that, according

to all I have been capable of collecting, it has very materially increased.

To what cause do you attribute that increase?—To the dog being, from his nature, an animal more liable to this disease than most others; to his extensive intercourse with his own species, as well as with other animals; and to the various causes of excitement to which he is continually exposed.

You attribute the increase of the disease, as affecting the human animal, to the increase of the number of the dog species kept in England at this time, as compared with the number kept at a period thirty years ago?—I certainly think it follows, as I have said, that the greater degree of liability of the animal to disease arises from the greater extent of communication of those animals with each other, and the more extensive opportunity of inflicting the disease, not only on their own species, but on many other animals. To those circumstances I would attribute what I assume to be the case, namely, the greater degree of the prevalence of the disease in question.

In your judgment it appears to be a question of proportions. Are you aware that there are countries in which dogs abound in a much greater degree than is the case in England, and in which the disease of canine madness is not understood to prevail at all?—Holding, as I do, the opinion that this disease depends upon the agency of a particular poison or virus, I should alone expect that the disease would shew itself where the virus or contagion existed, and would be unknown in countries where it was not introduced. I am quite aware that in Egypt, and in various other parts of the world, the inhabitants are happily strangers to the disease; which, as I have said, I attribute to the virus productive of the disease never having been introduced.

Exactly in the same way as a particular disease was not known in the South Sea Islands, till the English navigators introduced it?—This has been the case with the venereal disease and the small-pox.

In places where, for instance, as in India, the dogs are very numerous, and go at large without owners, the disease is known; but it is not nearly so prevalent as it seems to be in this country. To what would you be inclined to attribute that?—I can easily admit that climate may make a difference; but I should, I confess, be more disposed to attribute its greater prevalence here to the more extensive intercourse that takes place here in dog-fights, and in various opportunities that those animals have of associating with each other, and the provocation they undergo.

Do you conceive that the anger excited in a dog fight renders them more liable to receive the contagion, and to convey it, than a dog not exposed to that irritation would be?—I really should think this not at all improbable; though looking all along to the existence of the particular poison, I am not of opinion that any degree of excitement would actually produce the disease.

Do you conceive, in reference to your answer to the preceding question, as to the prevalence of the disease in other countries, that temperature, and if so, what range of temperature, may have any effect in pre-disposing the animal to the disease to which the question refers?—If I look to the extent of the disease in our own country, in which we have a variety of temperature, I am not disposed to lay any great stress upon that circumstance, inasmuch as I do not think that it is more prevalent with us, upon the whole, in summer than in winter.

Has any cure, to your knowledge, been effectual of the disease, when confirmed?—It does not come within my knowledge that any discovery has been made, or any mode of treatment been adopted, curative of that disease, in any instance whatever.

Do you conceive the cures reported to have been effected have been cures of the bite of dogs, which were either not mad, or the virus from the teeth of which had been previously cleaned or removed by the bite of other persons or animals?—When once the disease has shewn itself in the human subject, we have not, to my knowledge, any well-authenticated instance of recovery.

Have you ever turned your attention to this fact, what number of persons bitten by a dog supposed to be mad really take the disease?—I know, upon what I must consider as the most respectable authority, that there exists upon that point a very extensive latitude: that whilst, on one occasion, persons to the number of twenty were bitten by a dog clearly rabid, of whom but one fell under the disease, it happened in one other instance that, out of seventeen that were bitten, eleven fell a sacrifice to it.

In those cases do you suppose any thing to be attributable to preventive measures, such as excision of the part, and that process having taken place in some of the subjects and not in others?—I entertain no doubt that preventive measures, after the application of the virus, have been effectual in a great many instances.

Can you suggest to the Committee any measures of precaution which your experience and general science may render it desirable

for the Committee to receive?—In my view of the subject, I know of no security beyond that of keeping out of the reach of accident.

Does any plan suggest itself to your mind by which the public attention might be advantageously directed, aided by the inquiries of medical men, to the prevention or cure of the disease?—I am of opinion, that notwithstanding the very minute attention which has naturally been paid to that question, and the various measures that have been proposed, we are not yet in possession of any preventive or curative means, the local treatment prior to the appearance of the disease excepted, on which any reliance can be placed.

In what proportion has the disease increased? have you any tables by which you can state that fact?—No, I have not.

Have you known of a very considerable number of persons who have been bitten recently, being brought into the hospitals, or before private practitioners?—I am now so much more out of the way of seeing accidents of this kind than when I resided in Guy's Hospital, that all the recent information I have upon that subject is by communication with medical friends.

Do you think that the cutting the part, or using caustic, affords almost a certainty of the prevention of disease, after having been bitten?—It appears, on indubitable evidence, that cases have occurred of complete failure under the employment of those means, practised by the most experienced and judicious hands. I would, notwithstanding, recommend that the part should be removed (if this can be done with safety), and that caustic should be afterwards applied, as the most effectual means.

Do you conceive there has been a great increase in the number of dogs about the streets?—Yes; in London dogs are certainly much more frequently employed in drawing carts than formerly.

Do you think the exertion to which the dog is put will increase the disease?—The dog, having been once bitten, I think it not improbable that he would be more liable to have the poison of the disease called into action by any violent excitement.

Henry Earle, Esquire, called in and examined.

I wish you would be so good as to give some general information to the Committee upon the subject of canine madness; you have had opportunities of seeing such cases, particularly in one instance, at my house. Some spaniels were mad; and you inoculated some rabbits with the saliva of a dog that died mad. You have seen the effect?—Yes.

Have you seen any cases of mad dogs?—Several: I have

opened them, and seen others examined, particularly by Mr. Youatt, who possesses a great deal of information upon the subject, perhaps more than any man I know.

What do you consider to be the cause of canine madness?—I believe, from the evidence I possess, it is, in every instance, communicated from one dog to another: it does not arise spontaneously.

Do you believe that the provision, the mode of treatment, want of water, or the influence of severe weather, has any effect upon dogs, and produces hydrophobia?—I think there is no decided evidence to prove that; and on the opposite side, there is a great deal of evidence to disprove it; for instance, the total absence of the disease in many parts of the world, particularly in Lisbon, where dogs are to be found to a very great extent. It is well known they are the scavengers of Lisbon, feeding on the offal.

Do you speak from general information, or are you particularly acquainted with the fact of dogs not being subject to be mad in Lisbon?—I have been informed by persons who had been long resident in Lisbon, that the disease is not known there.

Does the species of madness differ in various cases?—Dogs are affected differently; some dogs are not at all disposed to bite when they are rabid.

What is the case as to others?—Others, and particularly the fighting dogs, are disposed to bite other dogs, but not to fight.

Can you give any reason, either in the temper of the dogs, or any other cause, which constitutes this difference between the two sorts of dogs?—The habits of dogs are very different. Spaniels, and dogs of that description, are not so disposed to be quarrelsome; there is no other rational reason to assign for it. The most violent dogs, the bull dogs, and dogs of that description, when they are afflicted with rabies, merely bite and run on. Sir John Shelley's keeper informed me, that he had seen a dog, which I supposed to be rabid, bite at almost every dog in the kennel, snapping at them, but not fighting with them.

In cases of rabbits, and animals that you have inoculated, have you found the same difference in the disorder?—There is a great difference: some animals have no disposition whatever to bite. The horse, when affected, has no disposition to bite; his tail is stiff, and ears erect, but he has no disposition to bite.

Do you consider madness in dogs a perfectly incurable disease?—I will not undertake to say so much; but no remedy has yet been discovered. At present, there is an important question agitating the minds of many medical men with respect to this. An opinion is entertained by some, that the disease can arise spontaneously in dogs, and that when communicated by inoculation

from other dogs, the dogs so bitten do not become rabid; they have a disease which destroys them, but not one which renders them rabid; but this is a point which has not been satisfactorily investigated by a continuance of inoculation from one dog to another. My belief is, that it is the same disease that is propagated from one to the other.

If the former opinion is found to be true, will it not very much diminish the danger of mad dogs?—Undoubtedly; but it would be very dangerous to make such experiments, and I am not aware of any satisfactory experiment having hitherto been made.

Can you state at what period of the disorder, when the dog is affected, that virus is first capable of causing infection?—I cannot state positively; in the many instances I have inquired into, from a fortnight to three weeks after the dog was bitten have elapsed before he has become affected; but generally the dog is affected in a shorter time than is the case with human subjects.

Do you consider that the dog is capable of communicating infection before the symptoms of the disease are apparent?—I should imagine not.

Have you seen many cases of persons bitten by dogs lately? Yes; only on Saturday last there were six who applied at St. Bartholomew's Hospital; and we have had ten or twelve in the course of the week.

Have the number of persons who have applied been larger this year than before?—Certainly.

Much larger?—I should think considerably larger; but there is a great alarm prevailing, and every person who has been bitten immediately applies to have the part removed.

From the accounts given by those people, do you think that a large proportion of those were bitten by dogs which were mad, or dogs which were not mad?—In many instances it was impossible to ascertain, as the dogs were unknown to the parties.

Have there been many instances in which, according to their statement, the probability was, that the dogs were mad?—In the majority of instances where the operation has been performed, there was reason to suppose that the dogs were mad.

Have you, in any of those cases, actually known the dog to die mad?—Not lately; but I have in other instances, some years ago. I can mention one instance particularly, in which I was concerned, where a dog had bitten five individuals in one family, and where the animal died of the disease, and some curious circumstances occurred after its death. I inoculated two rabbits from the saliva of the dog after death, and was particularly anxious to observe the result, in consequence of one of the individuals above alluded to having been bitten five days

before the part was excised; and as she was bitten very extensively in several places about her naked arms, I had reason to entertain great apprehensions as to the result. The dog was examined after death, and the stomach was found to contain dirt and rubbish, and exhibited all the phenomena of a dog dying rabid; and, as further evidence of it, the animal became perfectly paralysed in his hind quarters before he died. This was one of those cases, as far as could be ascertained by symptoms during life, and examination after death, which shewed that the animal died of rabies; and yet not one of the individuals who had been so bitten has since suffered from the effects of the disease. I mention this fact, because it was after an interval of five days that the part was removed. I watched the family for upwards of two years, and I have heard nothing since. The two rabbits were curiously affected, and the result of the inoculation certainly tends to throw some doubt on this having been really a case of rabies. They were inoculated at the root of the ears, and one of the rabbits speedily became inflamed about the ears; the ears became paralysed in both the rabbits. They had no power of raising them, and the head swelled very much, and extensive inflammation took place round the part where the virus was inserted, and one of the rabits died, but without exhibiting any of the usual symptoms of the disease; the other, after a long convalescence, survived, and eventually recovered the use of his ears.

Do you not think it probable that the incision was made so deep that it would paralyse the ears?—The incisions were merely sufficient to introduce the virus: I mention the circumstance, because the appearances were very different from what took place in the rabbits that were inoculated from the dog that died at Sir John Shelley's.

The second rabbit ultimately recovered?—Yes, completely recovered, after a long convalescence. In the rabbits that were inoculated at Sir John Shelley's, they exhibited all the phenomena of rabid animals. They were confined in a place where they could procure no rubbish or dirt, and had nothing but clean wholesome food given to them; after their death, their stomachs were found full of their own fæces.

Generally speaking, in the dogs that have died rabid you have found pieces of brick, sand, and dirt?—Yes; and it is an important question to ascertain whether this is to be considered as a symptom of the animal having been rabid. I believe a dog suffering from distemper will eat rubbish: it is questionable, in the instance I first mentioned, where so many persons were bitten by the same dog, whether the case was any thing more than

violent distemper. We are yet ignorant with regard to many important facts in this disease as it affects dogs.

In that instance you have mentioned, it was doubtful whether it was the disease of hydrophobia?—Yes.

Did you ever know any person really afflicted with the disease to recover?—Never.

Are there other complaints which medical men of eminence are apt to mistake for hydrophobia?—I cannot say that from any thing I have myself observed: in the instances I have myself seen, the symptoms have been clearly marked, and the persons after death have exhibited all the appearances said to exist in hydrophobia.

Did you not attend a woman who was mad that bit your finger?—The first instance of hydrophobia I ever witnessed was that of a woman, from the bite of a cat. I was about to give her some ice, and she was so very eager to catch at it, that she tore my finger with one of her teeth; in consequence of which I had the piece removed immediately. Great doubts existed at that time, in the minds of medical men, whether the disease could be communicated from one human being to another, and I was laughed at very much for taking the precaution of having the piece taken out. After the woman was dead, half a dozen rabbits were inoculated from her saliva, and as far as my recollection serves, two or three rabbits died with all the symptoms of rabies.

You said you yourself never had any doubt about the disease: do you not think now medical men might mistake other complaints for hydrophobia?—I think it is quite possible: I have known an instance in which a medical student was fully impressed with the idea that he had hydrophobia, and was in a state of mental hydrophobia for twenty-four hours. I was fortunate enough in knowing that he had a great penchant for porter, and I cured him with a pot of porter, by bringing a pot of porter fresh from the tap, which he took and drank off. He was for twenty-four hours labouring under the strong impression that he had hydrophobia.

Is it not a spasmodic affection?—Yes, a dreadful spasmodic affection, and is often produced by the sight of fluids. I have seen a patient on observing a looking-glass thrown into convulsions; and the passing of the urine in the same person produced convulsions.

How early does it take place after the bite, that the inflammation of the throat takes place you speak of?—I have never known any instance of the disease sooner than five weeks. There are authenticated cases recorded as late as twelve months afterwards.

I knew of one instance of hydrophobia after the expiration of twelve months: a man had been bitten on the day of the anniversary meeting of some medical men at the Thatched House, and upon that day twelve months, when the same parties were assembled, he was attacked with hydrophobia.

Upon that identical day?—Yes.

Is that the only instance you know of after that length of time?—The only instance.

Had he never any medical treatment in the intermediate time?—None that I know of. I do not mention it from my own knowledge; I had the account from my father.

Do you consider that the virus of the dog's saliva becomes exhausted by the biting of many objects?—It is a matter of opinion. I should think not. There is a continued secretion; an abundant secretion of saliva would continue to flow. If many were bit in a rapid succession, the saliva might be wiped from the teeth.

I think I understand you to say you never knew of more than one instance, where the part was cut out, that the party ever became hydrophobic?—No; I have in very many instances cut the part out, but I never have known a case of hydrophobia after it was so removed.

Is not that the case when the part is burnt with caustic?—I am not so satisfied with respect to caustic, unless it be strong nitric acid.

If you have a large laceration, there would be a chance of caustic not coming into the different parts?—The nitric acid acts very deeply, but other caustic, for instance caustic pot-ash, when there is any wound, becomes decomposed by the blood, and does not penetrate to the depth that nitric acid does. The nitric acid forms a dry eschar: but I prefer the knife, because in every instance where the caustic can be applied, the knife may be employed.

In all those cases where the part was excised, what was the time that elapsed after the bite was inflicted?—In one instance five days: it has frequently happened after the lapse of many hours. Once when I was bitten myself the part was not taken out of my leg till after six hours; I was so situated that I could not have it taken out sooner.

Do you conceive that it can be ascertained with precision, by a *post mortem* examination, whether the animal, man or dog, died rabid or not?—I will first answer with respect to the dog, and that I have in some measure already done. I think it difficult to decide positively whether the animal does die rabid or no; nor can that question be decided until a series of experiments are

made to ascertain what are the actual phenomena presented. I believe there are cases where dogs are supposed to be rabid, when they are merely afflicted with the distemper. I am doubtful of there being any appearances from which you can positively assert that the animal was rabid.

Have you seen an account of a cure lately effected by leaving the wound open to suppurate?—I have heard of the case, but there were no symptoms of the disease that manifested themselves; the symptoms of the disease were not developed. The mere circumstance of the wound having been kept open, and the person not having been affected with hydrophobia, does not shew that the treatment in question was better than having the part cut out.

Might it not be tried in parts where you could not try the excision?—There are few parts to which you could apply caustic where you cannot perform excision. If you apply caustic, you must take care that the caustic is strong enough to destroy all the parts affected; but we think that the knife can, with a greater degree of certainty, be employed. With regard to the appearance exhibited after death in the human subject, there are but few instances of persons dying of hydrophobia in which there have not been appearances of inflammation about the fauces.

How many years have you been in practice in your profession?—I have been twenty-five years at St. Bartholomew's.

Is it your opinion that hydrophobia has increased of late years?—Certainly; and the ground of that belief is, that I have seen, living or dead, nine instances in the space of twenty-five years; and my father, in the space of fifty years, never saw but one.

But you have had hospital practice?—Yes; and so had my father, at the same institution.

Have you seen many instances of hydrophobia in the present year?—Not one.

Have you heard of any?—I heard of one at St. Thomas's Hospital. The one at Middlesex Hospital was not hydrophobia; it was one of *delirium tremens*.

May not *delirium tremens* be mistaken for hydrophobia by ignorant people?—Yes.

Do tetanic complaints much resemble hydrophobia?—In some respects; but there is not the lock-jaw in hydrophobia.

I think you said you saw nine instances in twenty-five years?—I have seen them alive, or been present at the examination after death.

Is it your opinion that the saliva of rabid animals can be taken

into the stomach of a human being without danger? I have no evidence at all upon the subject. In the instance of the medical man to whose case I alluded, he had been attending a patient who was afflicted with hydrophobia, and the patient, when in convulsions, had thrown some of the saliva over him, and he supposed that it had entered his mouth: he was under that impression; but it is well known that the poison of serpents may be introduced into the stomach of animals with safety: that experiment has been made years ago.

In some cases of rabid persons, is not the disease occasioned without any actual contact, as, for instance, similar to cases of the small pox: may not the disease of canine madness be communicated in the same way, without any actual bite; may it not be effected by the atmosphere?—I have no evidence at all of that.

Would you say, from the character of the disease, that it was not likely?—I should think not.

Have you known any instance of that?—No.

Do you confine yourself to the transmission of the disease from one dog to another?—Yes. I have no evidence upon that subject to which you have alluded, but I should doubt it certainly. The small pox may be communicated by infection, or by miasmata in the air; but I should think that such would not be the case in canine madness. The fact might be ascertained very easily, if any person could be induced to carry on a series of experiments; and really, the present state of our information upon the subject requires that some such experiments should be made.

Are you able to suggest to the Committee any legislative measure which could have a good effect as to the suppression of canine madness?—Nothing but the destruction of the immense number of dogs that you meet about the streets. It is already provided that all dogs should be taxed, and their masters ought to pay for them. If all persons were obliged to have collars round their dogs, it would diminish their number considerably, but not entirely; for I had a visitation from a mad dog with a collar on about six weeks ago: he ran into my house, and I destroyed him.

[To be continued.]

INSIDIOUS GLANDERS IN HORSES.

By Mr. James Turner, *Veterinary Surgeon, Regent Street, London.*

[Read at the Veterinary Medical Society, Nov. 18, 1830.]

Gentlemen,

At our last meeting I had the honour of reading a short paper descriptive of a new method of treatment for the cure of glanders and farcy; but Mr. Goodwin having suggested that the Society ought to discuss the nature of the disease called Glanders, previous to entering into a consideration of the merits or demerits of my remedy, I am, therefore, induced to add a few more lines on the subject: not, however, undertaking to describe the nature of the disease, but merely with the view of calling the attention of the Society to a species of glanders which is of such a treacherous kind, that a good standard-practitioner might altogether overlook the complaint, with respect to its importance, without any dereliction of duty, unless his attention had been directed by his employer to one particular circumstance, which I shall presently point out.

It has been customary to consider a horse to be glandered in the case of an enlarged submaxillary gland adherent to the side of the jaw; a purulent discharge from one nostril issuing from the same side of the head, and accompanied with a decided ulceration of the schneiderian membrane to a considerable extent: when all these symptoms have existed in the same animal for a considerable time, in defiance of treatment, I believe he is pronounced by most veterinarians a glandered horse. Should a farcy ulcer or two supervene, not a shadow of doubt then remains.

I take alarm very early in these cases, and instantly remove any horse from others which has been known to have discharged from one or both nostrils beyond the ordinary period of time consumed in the clearing off of common catarrh, influenza, distemper, &c.; with or without the accompaniment of an enlarged gland, or any other morbid symptom, regarding the simple gleet alone, merely from its *long continuance*, a case suspicious of glanders.

When my suspicions have proved unfounded, the sequel having shewn an error on the right side, my employer has never complained; but, on the other hand, this system of precaution, most tenaciously followed in the course of a long practice, has afforded me the means of detecting a most destructive and lurking enemy, to which every description of horse is more or less exposed: it is a disease that I shall distinguish from the two more

common divisions of glanders, called *chronic* and *acute*, by adding a third, and shall presume to designate it *Insidious Glanders*. This disease consists in a watery discharge from one or both nostrils, more frequently from one only; generally containing small particles of mucus or pus; at others, assuming the appearance of froth; invariably in very small quantity, but never entirely ceasing either by night or day, at rest or in motion. Now, if this were accompanied with an enlarged submaxillary gland, the size of a walnut, and inclined to the side of the jaw, you would naturally say there is nothing treacherous in this; it does not differ from a common case of chronic glanders in the early stage. But how stands the fact? Why, in the disease to which I allude, the submaxillary gland is indurated and enlarged only to the size of a pea, or a horse-bean; frequently loose, or not adherent to the jaw bone, and therefore presenting no characteristic symptom of disease, except such as we usually meet with in incipient catarrh: and when this inconsiderable discharge issues from both nostrils, the case is still more delusive. There is also another circumstance which conspires almost invariably to lead the owner astray, severely to his cost; that is, the subject is, in the majority of instances, a most specious looking animal, full of flesh, gay in spirits, and with a good coat. What, then, enables us to decide on the real nature of the malady? Why, the owner's history, who tells us that the gleet or discharge, faint or trifling as it appears, has existed for a period, perhaps, of eight or nine months without intermission, or as long as he may have had the horse in his possession.

Now, gentlemen, in these cases there is no affection of the schneiderian membrane within sight, no particular colour in the discharge, no fœtor, (but I admit that it is sometimes viscid), no enlargement opposite the frontal sinuses, and no swelled legs, or any thing resembling farcy. The horse eats, drinks, takes his rest, and in the midst of work maintains his condition, whilst the two symptoms before described remain stationary, for perhaps years, without any apparent increase, *but are never removed;* and yet such a subject is capable, by inoculation, of producing acute glanders and farcy in other horses.

From the isolated fact of a horse having secreted pus from the mucous membranes lining the air-passages of the head for a period of many months, without intermission, I infer the possibility in some instances, under particular circumstances, of generating the specific poison of glanders.

I hope it will not be supposed that I have been labouring to describe another species of glanders: I entertain no such idea. I believe it to be the same common poison of glanders con-

cealed or suppressed by the peculiarity of constitution or vigour of the individual horse. This appalling fact is known to veterinary authors; but I think they have not sufficiently pointed it out. My wish is to hold it up to the light as the *occult* form of chronic glanders. My object is, that it may serve as a beacon; and prove useful to the proprietors of large establishments, as post and coach masters, town carmen, &c. by removing an erroneous impression from their minds, which many of them have most obstinately indulged in—that of considering a slight gleet from the nose, although of long continuance, as harmless, because that individual horse may happen to be extremely hardy, and as effective as any on their establishment.

I will relate a case, out of the many which have occurred to me of the same kind:—A few years ago, a respectable farmer solicited my opinion respecting a hackney mare which he had some time in full work; and who told me that he did not know there was any thing amiss with her, but wished her to be examined. She was about seven or eight years old, in excellent condition, and had a good coat. The farmer directed my especial attention to the head, saying that there had been a discharge from the off-nostril for a considerable time, but in so slight a degree as scarcely to be considered worthy of notice, especially as the mare was not jugged. There was, however, an enlargement of the gland about the size of a tick-bean, and quite loose. If my attention had not been particularly directed to it, I might have passed it over as not of much importance. I found that the farmer had had the mare seven or eight months; that the discharge had existed during the whole time; and that he had kept her away from the other farming horses. The farmer wished for a decided opinion respecting her. I replied, that the mere circumstance of the discharge having existed for so long a time, led me to suspect that she would never be perfectly sound; and that the farmer would not be justified in sending her into the market. She was immediately taken to a slaughterhouse in the neighbourhood. While arrangements were making with the collar-maker, a farrier interfered, and purchased her for three pounds; and triumphantly rode her up the town, and declared, in no measured terms, that I had committed a grand blunder, and that he should make a complete cure of her.

Five or six weeks afterwards I was told that the farrier had nearly cured the condemned mare. I replied, that if he had only *nearly* cured her, I understood the state in which she was. A month after this, I was examining the post-horses at an inn near London, when I was told that, by some collusion between the farrier

and the ostler, she had been sold into their stables, and was in excellent condition. On closely examining these post-horses, I detected two cases of glanders, and two of farcy without glanders; and this in a stable that had been occupied by post-horses for many a year, without a single case of farcy or glanders. On discovering this, I ordered the black mare out, saying that if I found her perfectly free from discharge, and with no enlargement of the submaxillary glands, I would not accuse her as the cause of all this mischief. She was precisely in the same state as when I first saw her. The first horse that failed was her own partner, and the next stood in the same stable. Those about the stables were so much mortified by this discovery, that the mare was immediately afterwards smuggled away; the infected horses were also removed, or died. Proper precautions were used with respect to the stables, and no further disease appeared.

THE VETERINARIAN, DECEMBER 1, 1830.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

ON the 15th ultimo the session at the Veterinary College commenced, and Mr. Coleman delivered his introductory lecture. We do not recollect to have seen the theatre more crowded, or the appearance of the class more respectable, or the auditors more attentive; unless when they were distracted, and that too frequently, and even to the very last sentence of the lecture, by the creaking of the door, when some of Mr. Coleman's old pupils, who came to shew the respect they had for him, only disturbed and annoyed him.

The professor looked well; and almost in rude health.

The lecture was, in the main, that to which we have for many a year listened—the same incomprehensible diatribe against comparative anatomy, as leading to comparative physiology, and comparative pathology. We could never conceive what comparative anatomy the veterinary student would have the inclination or the opportunity to study, except that of the patients on whom he would have to practise; and with regard to them, we

had ignorantly imagined that, in the very words of the professor, "a watchmaker could not repair a watch, unless he was perfectly acquainted with the mechanism of the watch." We have, however, seen the effect of this strange tirade against comparative anatomy, in confining the inquiries of the student to the structure of the horse alone. We perfectly agree with Mr. Coleman, that we can only by "experiment and experience" ascertain the effect of the same medicine on different animals, and that it is absurd to conclude that because it produces a certain effect on one animal, it will in the same, or in any dose, produce a similar effect on others; but we cannot connect this with any injurious study of comparative anatomy, so far as the pupil has opportunity to pursue it; and we do connect it with the neglect of that which is of paramount importance to him, and especially in reference to Mr. Coleman's declaration, that his lectures would embrace "the *anatomy*, *physiology*, and *pathology* of the *horse*, and the *diseases of other domestic animals*." There is something in all this perfectly incomprehensible to us; and we are, at times, half inclined to think that "more is meant than meets the ear."

Mr. Coleman touched on another subject, an old grievance with us, and with his most intelligent and staunchest and best friends; viz. the comparative advantages of the student previously medically educated and the farrier's son. Why should this invidious and erroneous, totally erroneous, line of distinction be so pertinaciously drawn?

The picture, however, was not so highly coloured as it was wont to be. Mr. Coleman expressly denied that he had ever said that the medical man *could* not make a good veterinary surgeon; but he had asserted that the medical man laboured under serious disadvantages, from his previous ignorance of the horse; that he was likely to become disgusted with many circumstances connected with his profession; and that, speaking from his experience as director of the college, the medical man comparatively rarely succeeded. He added, "I have had one hundred and thirty medical pupils; but if I were asked where they were, I could not tell: I cannot find them; at least in this metropolis I cannot:" and then he related a story of a medically

educated cavalry-veterinary surgeon, who was compelled to quit his regiment, because he mistook the lame leg; and of another, not medically educated, who was solicited to remain, and even tempted by the offer of having his mess-contribution paid for him.

We will not repeat what we have said on former occasions of the love and knowledge of the horse, which seem to form a part of the character of the country-medical practitioner; nor of the absurdity of supposing that he who has been accustomed to the most disgusting operations on the human being, would shrink from any which he might be called to perform on the horse; nor will we detail the circumstances which, in sad truth, are calculated to sicken the surgeon, and the man of education, and the gentleman, with his profession; but we will ask Mr. Coleman how many veterinary surgeons, *not liberally educated*, and taken from inferior classes of society, have either been compelled on these accounts to leave their regiments, or have been excluded from the mess? And next, we will tell him where he will find medically educated veterinary surgeons in the metropolis, in which he has been looking for them in vain; to say nothing of others, as competent, scattered elsewhere. He will find Mr. Goodwin, senior, the author of an excellent and practical work on shoeing, and veterinary surgeon to his late Majesty, now residing on a sufficient competence in the neighbourhood of this metropolis; and his son, the author of several valuable papers, veterinary surgeon to the present King; and Mr. John Field, junior, who, although not a graduated surgeon, had, previous to his attendance on the college, acquired a knowledge of human anatomy and physiology which would not have disgraced the best surgeon of the college, and now commanding a most extensive practice; and Mr. W. Percivall, veterinary surgeon to the First Life Guards, and the author of those justly-esteemed "Lectures on the Veterinary Art;" and Mr. Bracy Clark, a valuable contributor to veterinary science; and Mr. Coleman, the head of the veterinary profession; and, although we marvel why they are there, Messrs. Cooper, Bell, Green, Brodie and Co. examiners of the veterinary pupil. To this we will add, that if Mr. Coleman takes from us

the works of medically educated veterinary surgeons, he will not leave us a single publication worth having, a single guide for study or practice.

We quit this ungrateful subject—needlessly forced upon us—and on which the opinion of the better part of our profession, and of the public, and of Mr. Coleman's private friends, has been unequivocally expressed. The picture, we say, was not so highly coloured as it was wont to be; and there was that about the lecture—a spirit of liberality, and a frequent reference to the diseases of all domestic quadrupeds—which gave pleasing indications of improvement.

Mr. Coleman has pledged himself to lecture on "*the diseases of domestic animals;*" Mr. Sewell has pledged himself to teach the "*surgical treatment of the horse, the ox, and other domestic animals.*" They must have prepared themselves for this; *and the pupils and the public, and the honour of the professors, will demand the complete fulfilment of the pledge.* This is what we have long been contending for; and what the profession will rejoice in seeing accomplished. Both the professors now stand committed with their pupils and the public. Let them fairly and honestly redeem their pledge, and "the English school will no longer stand disgracefully alone amidst the veterinary institutions of Europe," and we shall be the willing, the proud instruments of conveying to them the thanks of the profession: at the same time we shall have the satisfaction of reflecting, that our humble Periodical has been mainly instrumental in obtaining these reasonable, important, indispensable, and too long withheld advantages.

We will add, and we add with pleasure, that Mr. Sewell has become far more accessible to the pupils; that he enters freely into conversation with any or all of them, and seems disposed to communicate useful information on every point on which he is questioned. These are evident "indications of improvement," and we cheerfully record them: yet we have to complain that theories, fanciful, wild, injurious,—never entertained beyond the college walls, and believed by no senior pupil within them, continue to be diligently and systematically enforced, almost to the exclusion

of that humbler, yet far more valuable portion of instruction, the treatment of disease. We have to complain of explications of physiology and disease by the professor, the assistant professor, and the assistant demonstrator, differing from each other more widely than the fundamental colours of the rainbow, and never, like them, beautifully combining; but leaving the student, whether he is preparing for examination or for practice, lost in a labyrinth of incertitude and doubt: and there are other points, on which we are unwilling to enter now, but against which, although ours is no factious opposition, we shall continue to direct the weapons of reason, remonstrance, satire, perchance indignation, until the Veterinary College becomes what its founders designed, and its friends wish it to be.

VETERINARY MEDICAL SOCIETY.

DISCUSSION ON MR. TURNER'S PAPER ON INSIDIOUS GLANDERS.

[November 18, 1830.]

Mr. HENDERSON *in the Chair.*

Mr. *Field.*—Did Mr. Turner examine the mare after death, or did he inoculate with the matter discharged?

Mr. *Turner.*—The mare was secretly taken away unknown to me; but I did collect a small quantity of the matter discharged, and inoculated two horses at a slaughter-house in London. The virus was inserted into the loins, as being a part far from the usual seat of farcy when it breaks out spontaneously. In both cases farcy ulcers were produced, with chains of buds proceeding from them, and running over the loins and proceeding to the inside of the thigh, with tumefaction of the limbs.

Mr. *Field.*—Was Mr. Turner assured of the previously healthy state of the inoculated horses? I scarcely recollect a period at which farcy and glanders were more prevalent than now. There are two studs of horses belonging to poor persons that are at the present moment dying with glanders, and the owners do not know that they were ever exposed to infection.

Mr. *Turner.*—There were many horses in the yard, and I selected two which seemed to have been sent there for no other reason than because they were incurably lame. They were very poor, but apparently free from all disease. The circumstance of farcy appearing first at the spot at which the virus was applied, and far from the usual situation of farcy, rendered it perfectly

clear that the disease was the consequence of inoculation. Farcy appeared four or five days after the inoculation, and I watched the progress of the disease for ten days or a fortnight before they died.

Mr. *Field* conceived that the case which Mr. Turner had described was precisely one of chronic glanders,—that form of the disease which we so often see, with a thin, milky, starchy discharge, scarcely blue, with little portions of pus mixed with it, and the discharge so scanty as scarcely to be distinguished from the common moisture of the nose. In cases of this kind, the glands were as often loose as attached. As to the history of the case being the only guide, he thought that the symptoms were quite sufficient to induce Mr. Turner to give the proper and cautious opinion which he did. A veterinary surgeon need take much time for consideration, before he gave a decided opinion in cases of this sort. They should be put to the test of inoculation.

Mr. *Turner*.—One marked difference between this insidious disease and the common form of glanders, is the exceedingly trifling alteration in the glands; so small indeed, as, without the previous history, to induce the observer to pay little or no attention to the case.

Mr. *Henderson* had often seen this slight and scarcely perceptible discharge, and when it continued long it always excited his suspicion. He had generally found that the gland was tender.

Mr. *Turner* had never remarked that the gland was tender in these cases of long-continued slight discharge.

Mr. *Woodin* agreed with Mr. Field, that this was a case of chronic glanders. He knew one marked case, in which a discharge scarcely more than natural, except when the horse laboured under catarrh, had existed for a long time. The horse belonged to a widow, who had lost six horses, and all of them, he believed, by infection from this horse. The size of the gland varied; it was sometimes as small as a pea, at other times as large as a walnut. The horse is still living, and in fine condition. He knew a second case, in which a person had lost eight or nine horses in the same way.

Mr. *Turner* observed, that in the greater number of cases of chronic glanders, the gland was of a much larger size.

Mr. *Field* always regarded the enlargement between the jaws as sympathetic with the disease of the nostrils. The tumefaction is precisely proportionate to the disease existing in the nostril.

Mr. *Woodin* recollected that twenty-six horses were shot in one day, when he was in Scotland, all infected by one troop-horse that had been glandered, but that had appeared partially to recover: he appeared to be well, except that there was the slightest possible weeping from one nostril. The veterinary surgeon would

not have him destroyed, but at length he, and all the other infected horses, were killed, at the order of the commanding officer, and the plague was immediately stayed. There was here the slightest possible enlargement of the glands, and sometimes obscure symptoms of farcy.

Mr. *Turner* observed, that all these facts prove that it is one and the same poison. The variety of appearance is the consequence of difference of constitution in the animal that secretes it, and the degree in which the constitution was able to resist the progress of the disease.

Mr. *Goodwin* said, that from all that he had heard on the subject of glanders lately, it seemed that the more we talked of it, the less we knew about it. Mr. Sewell, and Mr. Vines, and now Mr. Turner, had produced their lucubrations on this mysterious subject, and Mr. Turner had added a third variety in this "insidious disease." He confessed, that either from inexperience or ignorance he could not always pronounce this insidious disease to be glanders. This discharge might result from the relaxed state of the vessels of the membrane, in consequence of inflammation. He had had many cases of glanders under his care, but he could not always say, at the first examination of the animals, that they were glandered; he was accustomed to wait for some developement of the disease. He should often doubt both the prudence and the correctness of his diagnosis, who, under the circumstances which Mr. Turner described, should immediately pronounce a horse to be glandered.

Mr. *Turner* had told the owner at the time, that no practitioner, either in town or country, would declare the horse to be glandered merely from the symptoms which it exhibited; but he was guided by the history of the case. The discharge had existed eight months. He did not at first pronounce the mare to be glandered, but he said that the discharge would not cease; and he was induced to do this, violently suspecting that she was glandered, by the circumstance, that she had the discharge when she was purchased.

Mr. *Goodwin* begged to relate a case:—A twelvemonth ago, a horse came under his care that had a mucous discharge from one nostril. Soon afterwards the submaxillary gland became enlarged. He lost sight of the animal for awhile, but four months afterwards he was brought again under his notice. He had purulent discharge from the near nostril. He tried for more than six months to cure him. He used the sulphate of copper and cantharides, and he blistered, and rowelled, and physicked, but all without avail. The discharge, more than once, ceased for a full fortnight, but returned as violently as before. At length the horse was destroyed. The thoracic and abdominal viscera were

perfectly sound. On the schneiderian membrane covering the septum and turbinated bones there were spots of ecchymosis, but no ulcerations; and within the turbinated bones was a considerable quantity of muco-purulent matter. This would have been called glanders by many veterinary practitioners, but he could never understand that this horse had been infected by any other, or had communicated disease to any other. He could not conceive how we were to decide so promptly on cases of this description. He conceived the enlargement of the glands to be merely a sympathetic affection. Ulcers connected with glanders are not always accompanied by enlarged glands. Ulcers that have no connection with glanders, are occasionally found with the submaxillary glands very much tumefied. He was at a loss to know how we were always to decide in such cases. He had no doubt that many of the horses that had been supposed to have been cured of glanders at the Veterinary College, and elsewhere, were not really glandered. The continental writers declared glanders to be incurable, and they were not disposed to consider it as infectious. He knew well that horses might long stand and work together without catching the complaint, and he did not understand how any one could foresee or prognosticate an attack of glanders.

Mr. *Henderson* observed, that enlargement of the submaxillary glands would arise from many causes independent of glanders.

Mr. *Turner* asked whether Mr. Goodwin had examined the frontal and maxillary sinuses, and whether the breath on the side from which there was discharge was offensive.

Mr. *Goodwin*.—The breath was very offensive, but the frontal sinuses were not affected. He had suspected that it was a disease of the frontal sinuses, and he had examined them very carefully.

Mr. *Field* imagined that this could not be a case of glanders; the offensive smell was tolerably satisfactory proof of this.

Mr. *Turner* agreed with this as a general rule, and yet as one that had many exceptions. In the last stage of glanders, and glanders combined with farcy, the breath was exceedingly offensive.

Mr. *Goodwin* had seen many cases in which the breath was sometimes offensive, and at other times not so. He asked why the breath should be offensive in other cases, and not in glanders?

Mr. *Field* said that, in diseases of the sinuses of the head, the discharge was much thicker than in glanders; sometimes of a bright yellow colour, and offensive—offensive, because it lodged in large quantities in the sinuses. The access of air to pus in cavities rendered it offensive; therefore there was offensive discharge and offensive breath, so much so, that the owner, even sitting in

the carriage, had sometimes complained of it. He inoculated some condemned horses from it, and no disease followed; he inoculated them with matter from other horses decidedly glandered, and the disease was communicated. He had a horse under occasional treatment, for discharge from one sinus, fifteen months. He tried counter-irritants in every form, and every medicine that was likely to have good effect, but without avail. He inoculated some asses with the matter, but no disease supervened. He afterwards bought the horse, and has worked him for two years. There was a small loose enlargement of the gland on the affected side, four or five times the size of the other, but not in the slightest degree tender. When the bones become eroded, some offensive smell may be produced; but otherwise the fœtid breath and thickness of discharge are tolerably satisfactory proofs that the animal is not glandered.

Mr. *Goodwin* denied that the presence or absence of offensive smell was any absolute criterion. His opinion might be considerably influenced, but would never be determined by it.

Mr. *Henderson* asked Mr. Millington whether he had witnessed this chronic discharge in the human subject. He had seen a case, in which although the discharge was long, great, and offensive, yet by the use of frequent blisters, the patient got well.

Mr. *Millington* recollected a case of disease of the frontal sinuses, which long continued, but was ultimately cured.

Mr. *Goodwin* asked whether Mr. Turner considered glanders to be a tubercular disease.

Mr. *Turner* believed that a discharge having existed from the mucous membrane of the nostril for a considerable time, a specific poison would be produced capable of generating glanders in other horses. It depended on the susceptibility of the animal, and the peculiar state of his constitution at the time, whether or not the lungs would become affected. Disease of the lungs was not a necessary symptom or accompaniment of glanders. In the greater portion of cases, there were tubercles of the lungs; and in a very small number of cases, these had gone on to vomicæ. He had seen several cases in which the lungs were perfectly unaffected.

Mr. *Henderson* bore testimony to the accuracy of this. He recollected one case, in which the horse had both farcy and glanders, but the lungs were sound. This horse had laboured under the disease for five or six months. Glanders here seemed to be the consequence of some other disease. The horse had received severe injury in one of the legs, and farcy began to develope itself.

Mr. *Turner* remarked that, with regard to the control we had

over the disease, he thought that by perseverance we should succeed in the greater number of cases produced by infection; while the same treatment, possibly, would fail if the disease were generated. He thought that, if taken in the early stage, most of the cases produced by inoculation might be successfully treated.

Mr. *Field* was perfectly assured that experience could never justify Mr. Turner in encouraging such a hope, for we often found animals with spontaneous glanders going on from year to year, with the general health scarcely or at all affected, while others, inoculated with glanderous matter, died in a few days. He should assert, without hesitation, that inoculated glanders was far less tractable than spontaneous.

Mr. *Turner* thought that the principal obstacle to our treatment was the difficulty of getting at the cavities in which the matter was confined. An obstinate local disease was thus established as well as a constitutional one.

Mr. *Field* referred to the discussion of the last evening (which being hereafter to be resumed, we for the present omit), and asked whether Mr. Turner, who recommended the sulphate of iron in solution for the cure of farcy and glanders, and had also extolled the external application of it, had ever depended on the external application alone.

Mr. *Turner*. Certainly not; but he attached great importance to it in farcy, and in tumefaction of the legs. He used it with a brush, and with very considerable friction, with a view to its absorption. Whether the friction of the brush, independent of the lotion, had good effect, he could not say; but when he could not make them drink the solution he applied it extensively to the sides, and he thought with advantage. He had put dogs with distemper into these baths, and afterwards rubbed them dry with flannel, and whether from the friction or the iron he would not determine, but the animals were better.

The discussion now wandered to Mr. Coleman's valuable experiments relating to the communication of glanders by inoculation, and various opinions were hazarded as to the degree in which the blood is diseased.

Mr. *Turner* said that he had inoculated an ass with the matter of strangles, and glanders had supervened.

Mr. *Goodwin* had met with two similar cases. He wished to know what tissue was primarily affected.

Mr. *Henderson* could conceive that the blood after a time might take on disease, but the schneiderian membrane was the part first attacked.

Mr. *Field* observed, that inoculation at least proved that the poison had traversed the blood. A great deal had been said of

the disease existing during a healthy state of the constitution. What system continues in health, the vascular or the muscular? What tissue or part takes on diseased action, while the others remain unaffected? Until he heard a better opinion, he thought Mr. Coleman's as good as any.

Mr. *Goodwin* observed, that a small French synoptical work on glanders stated the disease to consist at first in minute miliary tubercles on the schneiderian membrane.

Mr. *Nailor* said that Mr. Dick believed that it commenced in the cellular membrane. If an animal attacked with glanders were pressed on the head, or turned in the stall, he would evince pain. He had seen two cases, in one of which inflammation of the schneiderian membrane had gone on to suppuration. When this horse was pressed on the head or back, he shrunk under the pressure. The frontal sinus exhibited no disease.

Mr. *Field* remarked that this, in some measure, coincided with the theory of M. Dupuy.

Mr. *Turner* inquired whether in syphilis, so far established that secondary symptoms appeared, the blood was supposed to be impregnated with the virus.

Mr. *Millington* did not imagine that it was, although these were not analogous cases, because in syphilis the lungs were not affected.

Mr. *Goodwin* said that John Hunter believed in this vitiation of the blood; but he imagined that his opinions were founded on these experiments of Mr. Coleman's.

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